SERVICE MANUAL

FISHER

CR-5300

Stereo Cassette Tape Deck with DOLBY Noise Reduction System and Metal Tape Capability

THE FIRST NAME IN HIGH FIDELITY

SPECIFICATIONS

Power Source	AC 120/220V (50/60Hz)
Power Consumption	14W
Recording System	AC Bias
Erasing System	AC Erasing
Tape Speed	1-7/8 ips. ±2%
Wow & Flutter	0.08% WRMS
Torque	
Playback	35 - 45g-cm
Fast Forward	60 - 90g-cm
Rewind	60 - 90g-cm
Fast Forward Time	100sec. (with C-60 cassette tape)
Rewind Time	100sec. (with C-60 cassette tape)
Frequency Response (Overall, DOLBY : OFF)	
Fe_2O_3 (7dB band)	40 - 12.5kHz
CrO_2 (7dB band)	40 - 14kHz
Metal (7dB band)	40 - 16kHz
Signal to Noise Ratio (According to CCIR method: Weighted, DOLBY : ON)	
Fe_2O_3	58dB
CrO_2	60dB
Metal	60dB
Signal to Noise Ratio (According to CCIR method: Weighted, DOLBY : OFF)	
Fe_2O_3	50dB
CrO_2	52dB
Metal	52dB
Erase Ratio (Overall)	
Fe_2O_3	60dB
CrO_2	60dB
Metal	60dB
Crosstalk (with Fe_2O_3)	
Track to Track	60dB
Channel Separation (with Fe_2O_3)	35dB
Harmonic Distortion (K3)	
Fe_2O_3	1.8%
CrO_2	1.5%
Metal	1.5%
Input Sensitivity and Impedance	
Microphone	1mV/15k-ohm
LINE IN	100mV/50k-ohm
DIN INPUT	1mV/10k-ohm
Output Level and Impedance	
LINE OUT	500mV/2k-ohm (47k-ohm load)
DIN OUTPUT	520mV/22k-ohm (470k-ohm load)
Headphone	30mV/500-ohm (8-ohm load)
Oscillation Frequency	85kHz
Dimensions (W x H x D)	400 x 120 x 205mm
Weight	4.5kg

–Specifications subject to change without notice.–

MECHANICAL ADJUSTMENTS

EQUIPMENTS REQUIRED

- Cassette-type Torque Meter (100g maximum)
- Thickness Gauge
- Cassette Tape (C-120)
- Silicone Grease (Example: SHIN-ETSU SILICONE KS-64)
- Paint or Glue

GENERAL REMARKS

- Before adjusting the mechanism of the unit, clean the tape contacting surfaces with a soft cloth soaked in alcohol. Trouble may occur because of oil and grease stains.

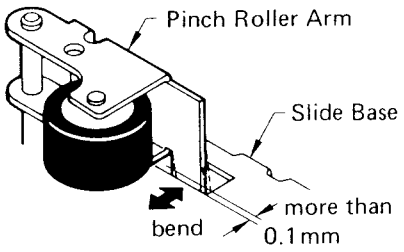
- The Belts must be kept clean while the adjustments are performed.
  * Silicone grease (Example: SHIN-ETSU SILICONE KS-64) is applied to the Drive Belt and the Take-up Belt to protect them from abrasion. If necessary, apply a proper amount of silicone grease (Example: SHIN-ETSU SILICONE KS-64) to each groove of the Flywheel and Friction assemblies.

  NOTE:
  Silicone grease is not applied to the Replacement Parts.

- **Never apply grease or oil to the ASO Belt. If applied, wipe it clean with benzine.**

PINCH ROLLER ADJUSTMENT

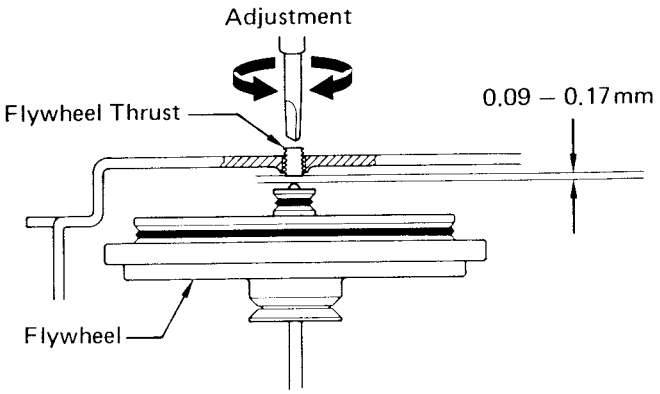
1. Set the unit in the playback mode and check to see that the clearance between the Pinch Roller Arm and the Slide Base is more than 0.1mm, and that the Take-up Reel Gear rotates before the Pinch Roller starts rotating as the PLAY button is gradually pressed.



2. If necessary, adjust the clearance by carefully bending the Pinch Roller Arm as illustrated.
   Do not excessively bend it.

FLYWHEEL THRUST ADJUSTMENT

Check to see that the clearance between the Flywheel Thrust and Flywheel is 0.09 – 0.17mm with the chassis upside down as illustrated. If necessary, adjust the clearance by the following procedure.



1. While moving the Capstan up and down, slowly turn the Flywheel Thrust clockwise to obtain the clearance of "0" between the Thrust and the Flywheel.

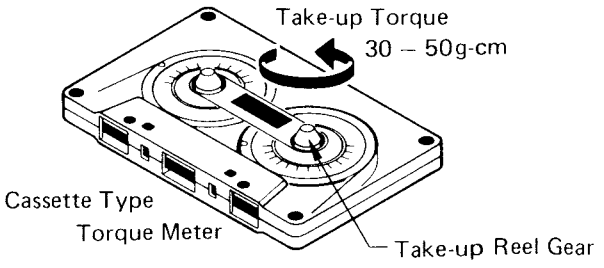
   NOTE:
   Do not turn the Flywheel Thrust forcibly.

2. Turn the Thrust counter-clockwise by 45° – 90° from the position.

3. After the adjustment, secure the Flywheel Thrust with paint or glue.

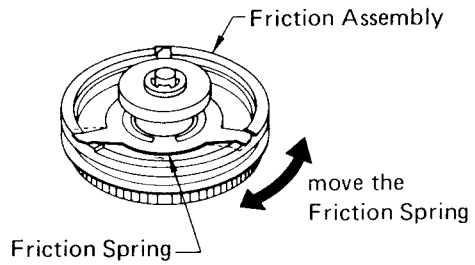
TAKE-UP TORQUE ADJUSTMENT

1. Insert the cassette-type torque meter into the unit and measure the torque of the Take-up Reel Gear with the unit in the playback mode. It should be 30 – 50g-cm.



2. If necessary, adjust the torque by moving the Friction Spring of the Friction Assembly as illustrated.

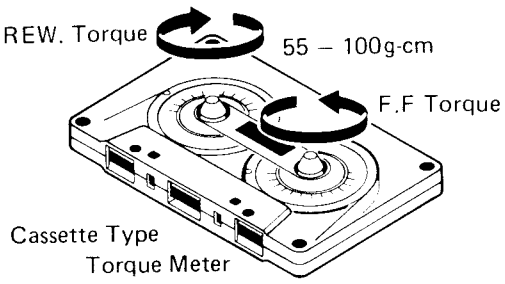
MECHANICAL ADJUSTMENTS (Continued)



NOTE:
If the Take-up Reel Gear and the Take-up Gear run idle and produce an abnormal sound, adjust the take-up torque as low as possible.

FAST FORWARD & REWIND TORQUE

1. The fast forward and rewind torque value measured by cassette-type torque meter should be 55 – 100g-cm.



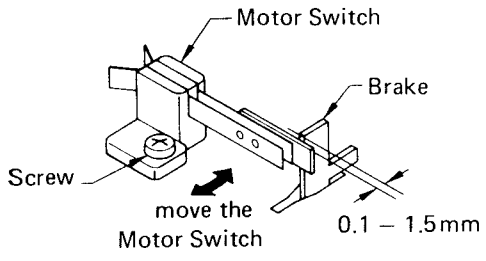
NOTE:
Read the torque values on the torque meter just before the unit automatically shuts off.

2. If the torque value is more than 100g-cm, apply a proper amount of silicone grease (Example: SHIN-ETSU SILICONE KS-64) to the groove of the Friction Assembly. Then, make the Motor rotate and apply the silicone grease to the Take-up Belt.

3. If the torque value is less than 55g-cm, replace the Take-up Belt with a new one.

MOTOR SWITCH ADJUSTMENT

1. Set the unit in the Stop mode and check to see that the clearance between the Motor Switch and the Brake is 0.1 – 1.5mm as illustrated, and that the Motor Switch is turned on by pressing one of the Select Buttons (PLAY, FF, or REW).

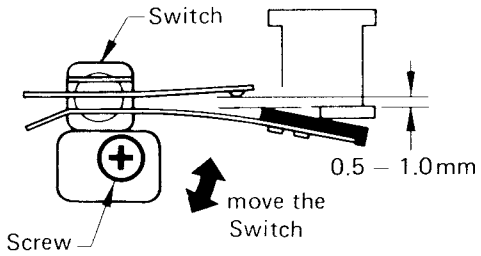


2. If necessary, loosen the screw fastening the Motor Switch and shift the Switch to the specified position.

3. After the adjustment, tighten the screw and secure it with paint or glue.

MUTING SWITCH ADJUSTMENT

1. This Switch is normally closed. Check to see that the clearance between the both contacts of the switch is 0.5 – 1.0mm with the PLAY button down as illustrated.

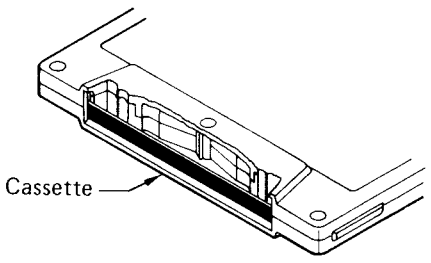


2. If necessary, loosen the screw fastening the Switch and move the Switch to the specified position.

3. After the adjustment, tighten the screw and secure it with paint or glue.

TAPE RUNNING CONDITION ADJUSTMENT

1. Prepare the cassette tape (C-120) as the test tape for this adjustment.



2. Insert the test tape into the cassette compartment and play it back. Then, check to see that the tape is not curling along the Tape Guide of the Erase Head while the test tape is being played back.

3. If necessary, tighten the adjusting screw and slowly loosen the adjusting screw until the tape is exactly centered in the Tape Guide of the Erase Head.

4. After the adjustment, secure the adjusting screw with paint or glue.

MECHANICAL ADJUSTMENTS (Continued)

AUTO SHUT-OFF MECHANISM

FUNCTION

1. Silicone grease (Example: SHIN-ETSU SILICONE KS-64) is applied to the contacting surfaces of the Bushing and the ASO Lever, and the teeth of the ASO Lever to make the Auto Shut-off mechanism function smoothly.
   If necessary, apply a proper amount of silicone grease to them.

2. The ASO Lever is ordinarily pressed to the Bushing of the Friction Assembly by the spring and moves in the direction of arrow A in accordance with the bushing rotation.

3. The shaft of the ASO Pulley is elliptical in shape like a cam as illustrated and moves the ASO Lever in the direction of arrow B according to the rotation of the ASO Pulley.

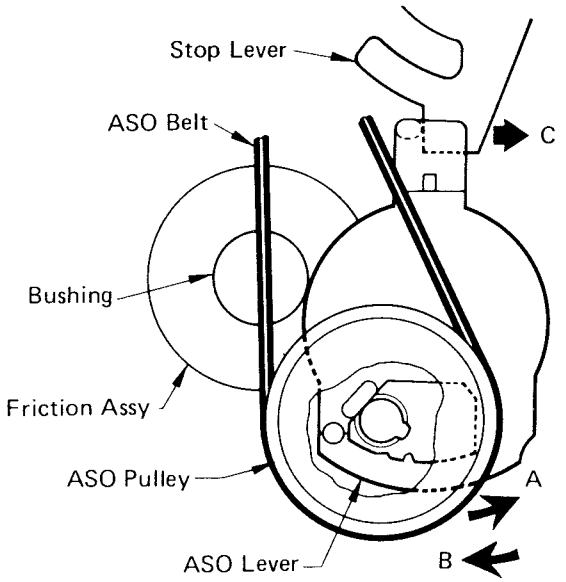
4. The teeth of the ASO Pulley and ASO Lever do not mesh and the shaft moves the ASO Lever back and forth by the above described movements (A and B).

5. When the tape is completely wound to the end, the bushing rotation stops, so that the ASO Lever is moved in the direction of arrow B by the ASO Pulley and it stops moving.

6. While the ASO Pulley is rotating, its tooth is engaged with the first tooth of the ASO Lever and it moves the ASO Lever in the direction of arrow C. Then, the tooth of the ASO Pulley is disengaged from the tooth of the ASO Lever.

7. The ASO Pulley continues rotating, so that its tooth meshes with the second tooth of the ASO Lever and it moves the ASO Lever in the direction of arrow C again.

8. Then, the ASO Lever pushes the Stop Lever in the direction of arrow C, so that the unit is set in the stop mode.



If there is a problem with the the Auto Shut-off mechanism, repair it referring to the following troubleshooting.

SYMPTOM	POSSIBLE CAUSE		REMEDY
ASO mechanism does not work properly.	ASO Spring is unhooked		Repair.
	Grease is not applied suficiently to the circumference of the Bushing or is not applied at all.		Apply grease.
	ASO Lever does not move properly.	Shaft of ASO Lever is clogged by grease or dust.	Remove grease or dust by wiping Shaft of ASO Lever with alcohol.
ASO mechanism does not work at all.	ASO Lever is in contact with Take-up Pulley of Friction Assembly.		Insert the washer below the E ring of the Bushing and keep the clearance between the E ring and the Bushing less than 0.5mm.
	ASO Belt is worn out.		Replace ASO Belt.
	ASO Belt is stained.		Wipe ASO Belt with benzine.

NOTE:
Although there is a case that the button is not locked by pressing one of the Select Buttons (PLAY, FF, or REW) without Power supplied to the unit after the unit has automatically shut off, this symptom is not a mulfunction.

ELECTRICAL ADJUSTMENTS

REQUIRED EQUIPMENT

- VTVM (2 sets)
- Frequency Counter
- Audio Signal Generator
- Dummy Load (47k-ohm)
- Dualtrace Synchroscope
- Test Tapes
  - * 3kHz test tape (Example: TEAC MTT-111) for Tape Speed Adjustment
  - * 10kHz test tape (Example: TEAC MTT-316) for Head Azimuth Adjustment
  - * Test Tape for DOLBY Level Calibration (Example: TEAC MTT-150) in Playback Gain Adjustment
- Test Tape for recording and playback operations
  - * Metal Tape (Example: TDK AC-701)
- Alignment Tool

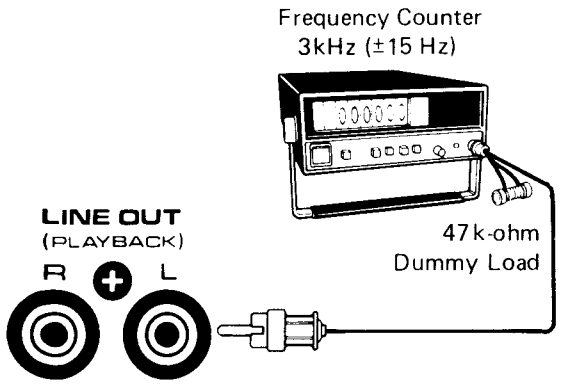
Prior to the Electrical Adjustments, set the unit and the measuring instruments as follows:

- DOLBY NR Switch ..... OFF
- Tape Select Switches ..... NORMAL
- Input Select Switch ..... LINE
- Input Level Adjusting Volume ..... Maximum
- Audio Signal Generator Output 1kHz 0dB (1V)

NOTE:
The Electrical Adjustments should be performed in the order as described below.

TAPE SPEED ADJUSTMENT

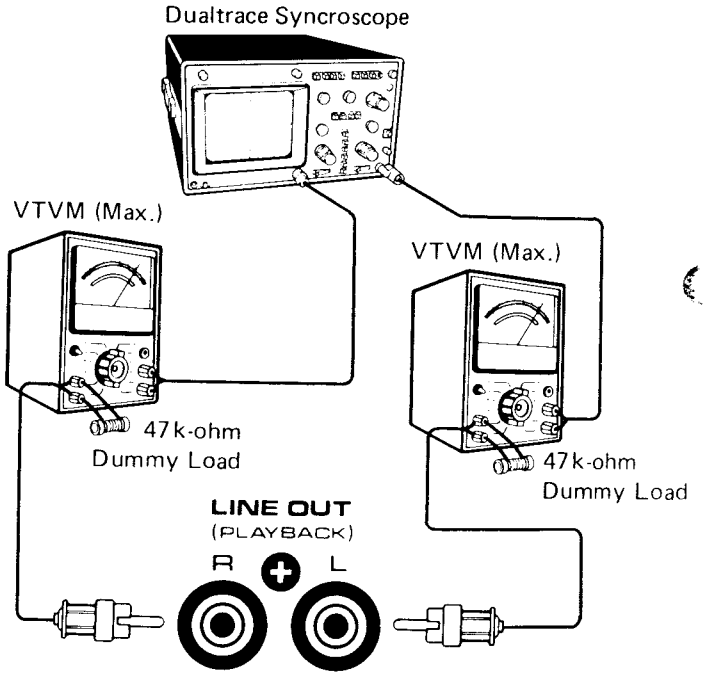
1. Connect the frequency counter to the left or right channel LINE OUT as illustrated. Then, insert a 3kHz test tape (Example: TEAC MTT-111) into the cassette compartment.



2. While playing back the test tape, adjust the potentiometer inside the Motor by turning it until the frequency counter reads 3kHz (±15Hz).

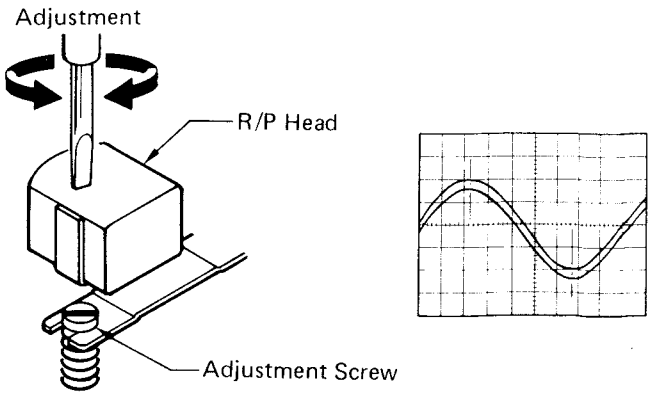
HEAD AZIMUTH ADJUSTMENT

1. Remove the cassette compartment lid from the unit and connect the dualtrace synchroscope and the VTVM to both channel LINE OUT as illustrated. Then, set the dualtrace synchroscope as follows:
   - * MODE ..... CHOP (chopped)
   - * SOURCE ..... INT (internal), CH1 or CH2
   - * SWEEP MODE ..... AUTO (automatic)



NOTE:
Adjust the field on the synchroscope with the VOL. ADJ. and TIME ADJ.

2. Insert a 10kHz test tape (Example: TEAC MTT-114) into the cassette compartment. While playing back the test tape, turn the azimuth adjusting screw until the wave forms of the right and left channels are superimposed and set to optimum at maximum reading of the VTVM.



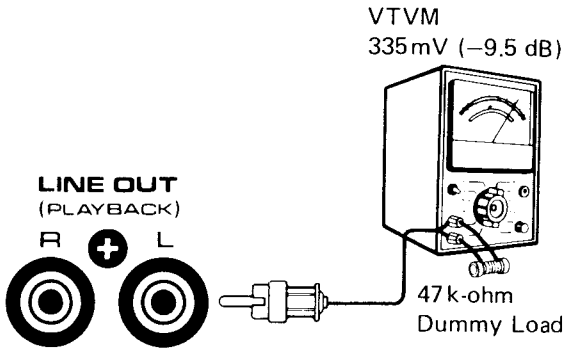
3. After the adjustment, secure the adjusting screw with paint or glue.

ELECTRICAL ADJUSTMENTS (Continued)

PLAYBACK GAIN ADJUSTMENT

LEFT CHANNEL

1. Connect the VTVM to the left channel LINE OUT as illustrated. Then, insert the test tape for the DOLBY Level Calibration (Example: TEAC MTT-150) into the cassette compartment and set the unit in the playback mode.



2. While playing back the test tape, adjust the potentiometer (P101) until the output level becomes 480mV on the VTVM.

RIGHT CHANNEL

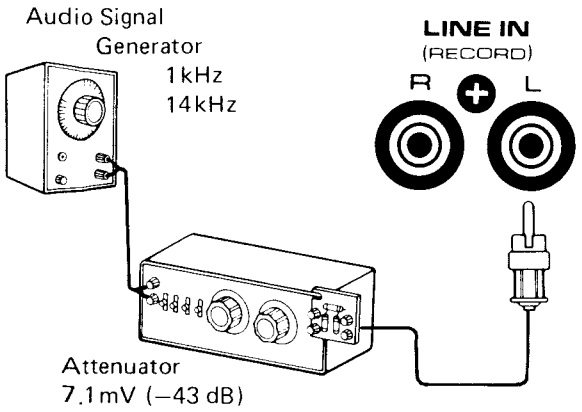
Connect the VTVM to the right channel LINE OUT. Then, adjust the potentiometer (P201) for the right channel by following the same procedure as LEFT CHANNEL.

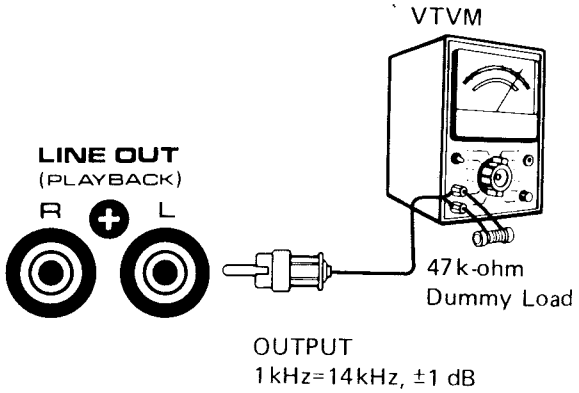
RECORDING BIAS ADJUSTMENT

- **For Metal Tape**

LEFT CHANNEL

1. Connect the audio signal generator and the attenuator to the left channel LINE IN, and the VTVM to the left channel LINE OUT as illustrated. Then, insert a metal tape (Example: TDK AC-701) into the cassette compartment.





2. Set the Tape Select Switches to METAL.

3. With the INPUT Level Control set to the maximum, alternately record the 1kHz signal and 14kHz signal from the audio signal generator at 7.1mV (–43dB) on the tape several times.

4. While playing back the recorded signals, check that the 14kHz signal output is identical to 1kHz signal output or the deviation is ±1dB on the VTVM.

5. If not, adjust the potentiometer (P103) and re-check the output of each signal by playing back the signals after the recording operation for the signals.

6. Repeat the above adjustment until the specified output is obtained.

RIGHT CHANNEL

Connect the audio signal generator and the attenuator to the right channel LINE IN, and the VTVM to the right channel LINE OUT. Then, adjust the potentiometer (P203) for the right channel by following the same procedure as LEFT CHANNEL.

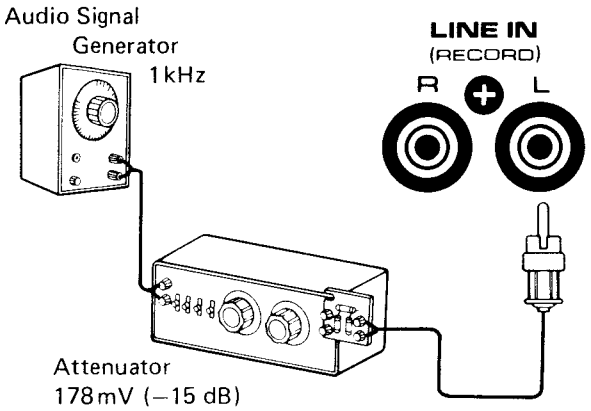
ELECTRICAL ADJUSTMENTS (Continued)

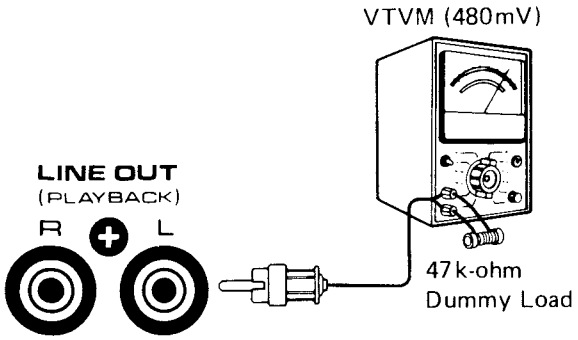
RECORDING GAIN ADJUSTMENT

- **For Metal Tape**

LEFT CHANNEL

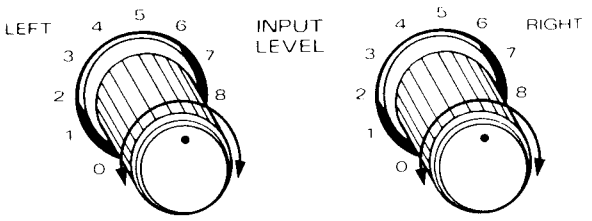
1. Connect the audio signal generator and the attenuator to the left channel LINE IN, and the VTVM to the left channel LINE OUT as illustrated. Then, insert a metal tape (Example: TDK AC-701) into the cassette compartment.





2. Set the Tape Select Switches to METAL.

3. Place the unit in the recording mode with the PAUSE button down. Feed 1kHz signal from the audio signal generator at 178mV (–15dB) to the unit and adjust the left channel INPUT Level Control until the VTVM reads 335mV (–9.5dB). Then, record the signal on the tape by repressing the PAUSE button.



4. While playing back the recorded signal, check that the VTVM reads 335mV (–9.5dB).

5. If not, adjust the potentiometer (P102) and re-check the output by playing back the signal after the recording operation for the signal.

6. Repeat the above adjustment until the specified output is obtained.

RIGHT CHANNEL

Connect the audio signal generator and the attenuator to the right channel LINE IN, and the VTVM to the right channel LINE OUT. Then, adjust the right channel INPUT Level Control and the potentiometer (P202) for the right channel by following the same procedure as LEFT CHANNEL.

PARTS LIST

PRODUCT SAFETY NOTICE

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN A COMPONENT REPLACEMENT IS MADE IN ANY AREA OF AN UNIT. COMPONENTS INDICATED BY A MARK ⚠ IN THIS PARTS LIST AND THE SCHEMATIC DIAGRAM SHOW COMPONENTS WHOSE VALUE HAS SPECIAL SIGNIFICANCE TO PRODUCT SAFETY. IT IS PARTICULARLY RECOMMENDED THAT ONLY PARTS SPECIFIED ON THE FOLLOWING PARTS LIST BE USED FOR COMPONENT REPLACEMENT POINTED OUT BY THE MARK.

Ref. No.	Part No.	Description	Q'ty
	PACKAGE		
	141 6 1419 47204	Individual Carton	1
	141 6 1449 62500	Styrofoam Case	1
	141 6 1449 62600	Styrofoam Case	1
	141 6 2519 11890	Poly Cover	1
	141 6 2519 24033	Poly Cover	1
	141 6 4559 03200	Serial No. Sheet	3
	ACCESSORIES		
	4 2369 70571	Patch Cord	2
	141 6 4519 19400	Warranty Card	1
	141 6 4729 07400	Caution Label	1
	141 6 4729 07700	Caution Label	1
	142 6 4119 01500	Instruction Manual	1
	CABINET		
	141 0 1119 66401	Front Cabinet Assy	1
	141 2 1119 60500	Cover	1
	141 2 1249 22600	Cassette Lid	1
	141 2 1319 17501	Cassette Lid Clear	1
	141 2 1419 09271	Rating Plate	1
	141 2 2449 32000	Sheet	1
	102 3 1703 01218	Screw, Bind Hd. Tapping-1 +M3.0x12	2
	103 3 1703 00811	Screw, Bind Hd. Tapping-2 +M3.0x8	4
	103 3 1703 01211	Screw, Bind Hd. Tapping-2 +M3.0x12	1
	103 3 1703 01411	Screw, Bind Hd. Tapping-2 +M3.0x14	2
	141 2 1619 68800	Knob	1
	141 2 1619 69000	Switch Knob	4
	141 2 1639 36600	Knob	2
	AMPLIFIER P.C.B. ASSY		
	※ 4 1329 75564	Amplifier P.C.B. Assy	1
J4	4 2359 73601	Jack 2P (Line In)	1
J5	4 2359 73601	Jack 2P (Line Out)	1
J6	4 2359 71552	DIN Socket (Record/Play)	1
	4 2369 70740	RT Pin	3
	141 2 4729 04700	Staple 10	25
CN1	4 2369 71450	Connector 6P	1
CN2	4 2369 71480	Connector 3P	1
C101	CC2 7 1500 KE00C	Ceramic 270 pF 50V ±10%	1
C102	CC4 7 1500 KE00C	Ceramic 470 pF 50V ±10%	1
C103	CD1 0 7100 0001V	Electrolytic 100 μF 10V	1
C104	CD4 7 5100 0000V	Electrolytic 4.7 μF 10V	1
C105	CD4 7 6100 0001V	Electrolytic 47 μF 10V	1
C106	CD1 0 6100 0000V	Electrolytic 10 μF 10V	1
C107	CC5 6 0500 KD00C	Ceramic 56 pF 50V ±10%	1
C108	CM3 3 3500 K00SV	Mylar 0.033 μF 50V ±10%	1
C109	CM1 5 3500 K00SV	Mylar 0.015 μF 50V ±10%	1
C110	CD2 2 7160 0001V	Electrolytic 220 μF 16V	1
C111	CD1 0 7160 0001V	Electrolytic 100 μF 16V	1
C112	CD1 0 5100 0000V	Electrolytic 1 μF 10V	1
C113	CC1 0 1500 KE00C	Ceramic 100 pF 50V ±10%	1
C114	CA3 3 4100 K000V	Aluminum 0.33 μF 10V ±10%	1
C115	CA1 0 4100 K000V	Aluminum 0.1 μF 10V ±10%	1
C116	CD1 0 6100 0000V	Electrolytic 10 μF 10V	1
C117	CM1 2 3500 K00SV	Mylar 0.012 μF 50V ±10%	1
C118	CM4 7 3500 K00SV	Mylar 0.047 μF 50V ±10%	1
C119	CD1 0 6100 0000V	Electrolytic 10 μF 10V	1
C120	CM4 7 2500 K00SV	Mylar 0.0047 μF 50V ±10%	1
C121	CM5 6 2500 K00SV	Mylar 0.0056 μF 50V ±10%	1
C122	CM2 7 3500 K00SV	Mylar 0.027 μF 50V ±10%	1

Ref. No.	Part No.	Description	Q'ty
	AMPLIFIER P.C.B. ASSY		
C123	CM1 2 2500 K00SV	Mylar 0.0012 μF 50V ±10%	1
C124	CD1 0 6100 0000V	Electrolytic 10 μF 10V	1
C125	CD1 0 6100 0000V	Electrolytic 10 μF 10V	1
C126	CD1 0 6100 0000V	Electrolytic 10 μF 10V	1
C127	CD4 7 4160 0000V	Electrolytic 0.47 μF 16V	1
C128	CD4 7 6100 0001V	Electrolytic 47 μF 10V	1
C129	CD1 0 6100 0000V	Electrolytic 10 μF 10V	1
C130	CA2 2 4100 K000V	Aluminum 0.22 μF 10V ±10%	1
C132	CM2 7 2500 K00SV	Mylar 0.0027 μF 50V ±10%	1
C133	CC1 0 1500 KE00C	Ceramic 100 pF 50V ±10%	1
C134	CD4 7 4100 0000V	Electrolytic 0.47 μF 10V	1
C135	CD4 7 4160 0000V	Electrolytic 0.47 μF 16V	1
C136	CD1 0 6100 0000V	Electrolytic 10 μF 10V	1
C137	CD1 0 6100 0000V	Electrolytic 10 μF 10V	1
C138	CC2 2 1500 KE00C	Ceramic 220 pF 50V ±10%	1
C139	CC2 2 2500 KE00C	Ceramic 0.0022 μF 50V ±10%	1
C140	CD1 0 5100 0000V	Electrolytic 1 μF 10V	1
C141	CD1 0 5100 0000V	Electrolytic 1 μF 10V	1
C180	CC4 7 1500 KE00C	Ceramic 470 pF 50V ±10%	1
C201	CC2 7 1500 KE00C	Ceramic 270 pF 50V ±10%	1
C202	CC4 7 1500 KE00C	Ceramic 470 pF 50V ±10%	1
C203	CD1 0 7100 0001V	Electrolytic 100 μF 10V	1
C204	CD4 7 5100 0000V	Electrolytic 4.7 μF 10V	1
C205	CD4 7 6100 0001V	Electrolytic 47 μF 10V	1
C206	CD1 0 6100 0000V	Electrolytic 10 μF 10V	1
C207	CC5 6 0500 KD00C	Ceramic 56 pF 50V ±10%	1
C208	CM3 3 3500 K00SV	Mylar 0.033 μF 50V ±10%	1
C209	CM1 5 3500 K00SV	Mylar 0.015 μF 50V ±10%	1
C210	CD2 2 7160 0001V	Electrolytic 220 μF 16V	1
C211	CD1 0 7160 0001V	Electrolytic 100 μF 16V	1
C212	CD1 0 5100 0000V	Electrolytic 1 μF 10V	1
C213	CC1 0 1500 KE00C	Ceramic 100 pF 50V ±10%	1
C214	CA3 3 4100 K000V	Aluminum 0.33 μF 10V ±10%	1
C215	CA1 0 4100 K000V	Aluminum 0.1 μF 10V ±10%	1
C216	CD1 0 6100 0000V	Electrolytic 10 μF 10V	1
C217	CM1 2 3500 K00SV	Mylar 0.012 μF 50V ±10%	1
C218	CM4 7 3500 K00SV	Mylar 0.047 μF 50V ±10%	1
C219	CD1 0 6100 0000V	Electrolytic 10 μF 10V	1
C220	CM4 7 2500 K00SV	Mylar 0.0047 μF 50V ±10%	1
C221	CM5 6 2500 K00SV	Mylar 0.0056 μF 50V ±10%	1
C222	CM2 7 3500 K00SV	Mylar 0.027 μF 50V ±10%	1
C223	CM1 2 2500 K00SV	Mylar 0.0012 μF 50V ±10%	1
C224	CD1 0 6100 0000V	Electrolytic 10 μF 10V	1
C225	CD1 0 6100 0000V	Electrolytic 10 μF 10V	1
C226	CD1 0 6100 0000V	Electrolytic 10 μF 10V	1
C227	CD4 7 4160 0000V	Electrolytic 0.47 μF 16V	1
C228	CD4 7 6100 0001V	Electrolytic 47 μF 10V	1
C229	CD1 0 6100 0000V	Electrolytic 10 μF 10V	1
C230	CA2 2 4100 K000V	Aluminum 0.22 μF 10V ±10%	1
C232	CM2 7 2500 K00SV	Mylar 0.0027 μF 50V ±10%	1
C233	CC1 0 1500 KE00C	Ceramic 100 pF 50V ±10%	1
C234	CD1 0 5100 0000V	Electrolytic 1 μF 10V	1
C235	CD4 7 4160 0000V	Electrolytic 0.47 μF 16V	1
C236	CD1 0 6100 0000V	Electrolytic 10 μF 10V	1
C237	CD1 0 6100 0000V	Electrolytic 10 μF 10V	1
C238	CC2 2 1500 KE00C	Ceramic 220 pF 50V ±10%	1
C239	CC2 2 2500 KE00C	Ceramic 0.0022 μF 50V ±10%	1
C240	CD1 0 5100 0000V	Electrolytic 1 μF 10V	1
C241	CD1 0 5100 0000V	Electrolytic 1 μF 10V	1
C280	CC4 7 1500 KE00C	Ceramic 470 pF 50V ±10%	1

PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
	AMPLIFIER P.C.B. ASSY		
C301	CD1 0 7250 0001V	Electrolytic 100 μF 25V	1
C302	CD1 0 7160 0001V	Electrolytic 100 μF 16V	1
C304	CD4 7 4250 0000V	Electrolytic 0.47 μF 25V	1
C305	CC2 2 2500 KE00C	Ceramic 0.0022 μF 50V ±10%	1
C306	CM2 2 3500 K00SV	Mylar 0.022 μF 50V ±10%	1
C307	※ CP1 8 3101 J000V	Polypropylene 0.018 μF 100V ±5%	1
C308※	CM6 8 2500 K00SV	Mylar 0.0068 μF 50V ±10%	1
C309※	CM6 8 2500 K00SV	Mylar 0.0068 μF 50V ±10%	1
C310	CM1 8 3500 K00SV	Mylar 0.018 μF 50V ±10%	1
C311	CD1 0 7100 0001V	Electrolytic 100 μF 10V	1
C313	CD4 7 7250 0001V	Electrolytic 470 μF 25V	1
D101	202 5 9110 18820	Diode, 1S188	1
D102	202 5 9110 18820	Diode, 1S188	1
D103	202 5 9530 44810	Diode, DS448	1
D104	202 5 9530 44810	Diode, DS448	1
D201	202 5 9110 18820	Diode, 1S188	1
D202	202 5 9110 18820	Diode, 1S188	1
D203	202 5 9530 44810	Diode, DS448	1
D204	202 5 9530 44810	Diode, DS448	1
D301	202 5 3210 05120	Diode, GZA5.1U	1
D302	202 5 3210 05120	Diode, GZA5.1U	1
D304	202 5 9530 44810	Diode, DS448	1
D312	202 5 3210 05120	Diode, GZA5.1U	1
D313	202 5 9530 44810	Diode, DS448	1
D330	202 5 9530 44810	Diode, DS448	1
D331	202 5 9530 44810	Diode, DS448	1
IC101	4 2069 70380	IC, NE646B	1
IC201	4 2069 70380	IC, NE646B	1
L101	4 2729 70290	Coil (33 mH)	1
L102	4 2729 70290	Coil (33 mH)	1
L103	4 2729 70342	Coil, DOLBY Filter	1
L201	4 2729 70290	Coil (33 mH)	1
L202	4 2729 70290	Coil (33 mH)	1
L203	4 2729 70342	Coil, DOLBY Filter	1
T301	※ 4 2589 73140	OSC Transformer	1
P101	4 2229 72968	Potentiometer (B-20 k ohm)	1
P102	4 2229 72968	Potentiometer (B-20 k ohm)	1
P103	4 2229 72971	Potentiometer (B-100 k ohm)	1
P201	4 2229 72968	Potentiometer (B-20 k ohm)	1
P202	4 2229 72968	Potentiometer (B-20 k ohm)	1
P203	4 2229 72971	Potentiometer (B-100 k ohm)	1
Q101	203 5 5100 69362	Transistor, 2SC693	1
Q102	203 5 5100 69362	Transistor, 2SC693	1
Q103	203 5 5100 69362	Transistor, 2SC693	1
Q104	203 5 5100 53650	Transistor, 2SC536	1
Q105	203 5 5100 53650	Transistor, 2SC536	1
Q106	203 5 5100 53660	Transistor, 2SC536	1
Q107	203 5 5100 53660	Transistor, 2SC536	1
Q108	203 5 5100 53660	Transistor, 2SC536	1
Q109	203 5 5100 53660	Transistor, 2SC536	1
Q110	203 5 5100 53660	Transistor, 2SC536	1
Q112	203 5 5100 53660	Transistor, 2SC536	1
Q113	203 5 5100 53660	Transistor, 2SC536	1
Q114	203 5 5100 53660	Transistor, 2SC536	1
Q117	203 5 5100 53650	Transistor, 2SC536	1
Q201	203 5 5100 69362	Transistor, 2SC693	1
Q202	203 5 5100 69362	Transistor, 2SC693	1
Q203	203 5 5100 69362	Transistor, 2SC693	1
Q204	203 5 5100 53650	Transistor, 2SC536	1
Q205	203 5 5100 53650	Transistor, 2SC536	1
Q206	203 5 5100 53660	Transistor, 2SC536	1
Q207	203 5 5100 53660	Transistor, 2SC536	1
Q208	203 5 5100 53660	Transistor, 2SC536	1
Q209	203 5 5100 53660	Transistor, 2SC536	1
Q210	203 5 5100 53660	Transistor, 2SC536	1
Q212	203 5 5100 53660	Transistor, 2SC536	1
Q213	203 5 5100 53660	Transistor, 2SC536	1
Q214	203 5 5100 53660	Transistor, 2SC536	1
Q217	203 5 5100 53650	Transistor, 2SC536	1

Ref. No.	Part No.	Description	Q'ty
	AMPLIFIER P.C.B. ASSY		
Q301	4 2039 70431	Transistor, 2SC1815	1
Q302	4 2039 70431	Transistor, 2SC1815	1
Q312	203 5 5100 53660	Transistor, 2SC536	1
R101	RD1 5 3251 JS000	Carbon 15 k ohm 1/4W ±5%	1
R102	RD2 7 4251 JS000	Carbon 270 k ohm 1/4W ±5%	1
R103	RD4 7 0251 JS000	Carbon 47 ohm 1/4W ±5%	1
R104	RD2 2 4251 JS000	Carbon 220 k ohm 1/4W ±5%	1
R105	RD1 5 3251 JS000	Carbon 15 k ohm 1/4W ±5%	1
R106	RD1 0 2251 JS000	Carbon 1 k ohm 1/4W ±5%	1
R107	RD1 0 4251 JS000	Carbon 100 k ohm 1/4W ±5%	1
R108	RD1 8 2251 JS000	Carbon 1.8 k ohm 1/4W ±5%	1
R109	RD3 9 2251 JS000	Carbon 3.9 k ohm 1/4W ±5%	1
R110	RD3 9 4251 JS000	Carbon 390 k ohm 1/4W ±5%	1
R111	RD3 9 2251 JS000	Carbon 3.9 k ohm 1/4W ±5%	1
R112	RD1 0 4251 JS000	Carbon 100 k ohm 1/4W ±5%	1
R113	RD3 9 2251 JS000	Carbon 3.9 k ohm 1/4W ±5%	1
R114	RD4 7 2251 JS000	Carbon 4.7 k ohm 1/4W ±5%	1
R115	RD1 0 2251 JS000	Carbon 1 k ohm 1/4W ±5%	1
R116	RD1 0 2251 JS000	Carbon 1 k ohm 1/4W ±5%	1
R117	RD2 2 4251 JS000	Carbon 220 k ohm 1/4W ±5%	1
R118	RD3 3 1251 JS000	Carbon 330 ohm 1/4W ±5%	1
R119	RD1 5 4251 JS000	Carbon 150 k ohm 1/4W ±5%	1
R120	RD1 0 2251 JS000	Carbon 1 k ohm 1/4W ±5%	1
R121	RD2 7 4251 JS000	Carbon 270 k ohm 1/4W ±5%	1
R122	RD3 3 2251 JS000	Carbon 3.3 k ohm 1/4W ±5%	1
R123	RD4 7 3251 JS000	Carbon 47 k ohm 1/4W ±5%	1
R124	RD1 8 1251 JS000	Carbon 180 ohm 1/4W ±5%	1
R125	RD1 0 3251 JS000	Carbon 10 k ohm 1/4W ±5%	1
R126	RD1 0 3251 JS000	Carbon 10 k ohm 1/4W ±5%	1
R127	RD5 6 2251 JS000	Carbon 5.6 k ohm 1/4W ±5%	1
R128	RD1 0 2251 JS000	Carbon 1 k ohm 1/4W ±5%	1
R129	RD1 0 2251 JS000	Carbon 1 k ohm 1/4W ±5%	1
R130	RD2 2 2251 JS000	Carbon 2.2 k ohm 1/4W ±5%	1
R131	RD1 0 5251 JS000	Carbon 1M ohm 1/4W ±5%	1
R132	RD2 2 2251 JS000	Carbon 2.2 k ohm 1/4W ±5%	1
R133	RD6 8 2251 JS000	Carbon 6.8 k ohm 1/4W ±5%	1
R134	RD1 5 2251 JS000	Carbon 1.5k ohm 1/4W ±5%	1
R135	RD4 3 4251 JS000	Carbon 430 k ohm 1/4W ±5%	1
R136	RD6 2 3251 JS000	Carbon 62 k ohm 1/4W ±5%	1
R137	RD5 6 2251 JS000	Carbon 5.6 k ohm 1/4W ±5%	1
R138	RD7 5 1251 JS000	Carbon 750 ohm 1/4W ±5%	1
R139	RD2 2 3251 JS000	Carbon 22 k ohm 1/4W ±5%	1
R140	RD1 5 3251 JS000	Carbon 15 k ohm 1/4W ±5%	1
R141	RD1 0 3251 JS000	Carbon 10 k ohm 1/4W ±5%	1
R142	RD5 6 1251 JS000	Carbon 560 ohm 1/4W ±5%	1
R143	RD6 8 2251 JS000	Carbon 6.8 k ohm 1/4W ±5%	1
R144	RD1 0 3251 JS000	Carbon 10 k ohm 1/4W ±5%	1
R145	RD8 2 3251 JS000	Carbon 82 k ohm 1/4W ±5%	1
R146	RD8 2 2251 JS000	Carbon 8.2 k ohm 1/4W ±5%	1
R147	RD2 7 0251 JS000	Carbon 27 ohm 1/4W ±5%	1
R148	RD6 8 1251 JS000	Carbon 680 ohm 1/4W ±5%	1
R149	RD5 6 0251 JS000	Carbon 56 ohm 1/4W ±5%	1
R150	RD3 9 2251 JS000	Carbon 3.9 k ohm 1/4W ±5%	1
R151	RD2 2 2251 JS000	Carbon 2.2 k ohm 1/4W ±5%	1
R152	RD1 8 4251 JS000	Carbon 180 k ohm 1/4W ±5%	1
R153	RD2 7 3251 JS000	Carbon 27 k ohm 1/4W ±5%	1
R154	RD3 3 2251 JS000	Carbon 3.3 k ohm 1/4W ±5%	1
R155	RD2 7 1251 JS000	Carbon 270 ohm 1/4W ±5%	1
R156	RD1 1 3251 JS000	Carbon 11 k ohm 1/4W ±5%	1
R157	RD1 0 5251 JS000	Carbon 1M ohm 1/4W ±5%	1
R158	RD2 2 3251 JS000	Carbon 22 k ohm 1/4W ±5%	1
R159	RD1 0 3251 JS000	Carbon 10 k ohm 1/4W ±5%	1
R160	RD3 3 3251 JS000	Carbon 33 k ohm 1/4W ±5%	1
R161	RD2 2 3251 JS000	Carbon 22 k ohm 1/4W ±5%	1
R162	RD2 2 3251 JS000	Carbon 22 k ohm 1/4W ±5%	1
R164	RD4 7 3251 JS000	Carbon 47 k ohm 1/4W ±5%	1
R165	RD2 2 3251 JS000	Carbon 22 k ohm 1/4W ±5%	1
R166	RD1 0 3251 JS000	Carbon 10 k ohm 1/4W ±5%	1
R169	RD1 0 3251 JM000	Carbon 10 k ohm 1/4W ±5%	1
R171	RD1 0 3251 JS000	Carbon 10 k ohm 1/4W ±5%	1

PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
	AMPLIFIER P.C.B. ASSY		
R172	RD2 2 3251 JS000	Carbon 22 k ohm 1/4W ±5%	1
R173	RD3 0 3251 JS000	Carbon 30 k ohm 1/4W ±5%	1
R174	RD1 0 3251 JS000	Carbon 10 k ohm 1/4W ±5%	1
R201	RD1 5 3251 JS000	Carbon 15 k ohm 1/4W ±5%	1
R202	RD2 7 4251 JS000	Carbon 270 k ohm 1/4W ±5%	1
R203	RD4 7 0251 JS000	Carbon 47 ohm 1/4W ±5%	1
R204	RD2 2 4251 JS000	Carbon 220 k ohm 1/4W ±5%	1
R205	RD1 5 3251 JS000	Carbon 15 k ohm 1/4W ±5%	1
R206	RD1 0 2251 JS000	Carbon 1 k ohm 1/4W ±5%	1
R207	RD1 0 4251 JS000	Carbon 100 k ohm 1/4W ±5%	1
R208	RD1 8 2251 JS000	Carbon 1.8 k ohm 1/4W ±5%	1
R209	RD3 9 2251 JS000	Carbon 3.9 k ohm 1/4W ±5%	1
R210	RD3 9 4251 JS000	Carbon 390 k ohm 1/4W ±5%	1
R211	RD3 9 2251 JS000	Carbon 3.9 k ohm 1/4W ±5%	1
R212	RD1 0 4251 JS000	Carbon 100 k ohm 1/4W ±5%	1
R213	RD3 9 2251 JS000	Carbon 3.9 k ohm 1/4W ±5%	1
R214	RD4 7 2251 JS000	Carbon 4.7 k ohm 1/4W ±5%	1
R215	RD1 0 2251 JS000	Carbon 1 k ohm 1/4W ±5%	1
R216	RD1 0 2251 JS000	Carbon 1 k ohm 1/4W ±5%	1
R217	RD2 2 4251 JS000	Carbon 220 k ohm 1/4W ±5%	1
R218	RD3 3 1251 JS000	Carbon 330 ohm 1/4W ±5%	1
R219	RD1 5 4251 JS000	Carbon 150 k ohm 1/4W ±5%	1
R220	RD1 0 2251 JS000	Carbon 1 k ohm 1/4W ±5%	1
R221	RD2 7 4251 JS000	Carbon 270 k ohm 1/4W ±5%	1
R222	RD3 3 2251 JS000	Carbon 3.3 k ohm 1/4W ±5%	1
R223	RD4 7 3251 JS000	Carbon 47 k ohm 1/4W ±5%	1
R224	RD1 8 1251 JS000	Carbon 180 ohm 1/4W ±5%	1
R225	RD1 0 3251 JS000	Carbon 10 k ohm 1/4W ±5%	1
R226	RD1 0 3251 JS000	Carbon 10 k ohm 1/4W ±5%	1
R227	RD5 6 2251 JS000	Carbon 5.6 k ohm 1/4W ±5%	1
R228	RD1 0 2251 JS000	Carbon 1 k ohm 1/4W ±5%	1
R229	RD1 0 2251 JS000	Carbon 1 k ohm 1/4W ±5%	1
R230	RD2 2 2251 JS000	Carbon 2.2 k ohm 1/4W ±5%	1
R231	RD1 0 5251 JS000	Carbon 1M ohm 1/4W ±5%	1
R232	RD2 2 2251 JS000	Carbon 2.2 k ohm 1/4W ±5%	1
R233	RD6 8 2251 JS000	Carbon 6.8 k ohm 1/4W ±5%	1
R234	RD1 5 2251 JS000	Carbon 1.5 k ohm 1/4W ±5%	1
R235	RD4 3 4251 JS000	Carbon 430 k ohm 1/4W ±5%	1
R236	RD6 2 3251 JS000	Carbon 62 k ohm 1/4W ±5%	1
R237	RD5 6 2251 JS000	Carbon 5.6 k ohm 1/4W ±5%	1
R238	RD7 5 1251 JS000	Carbon 750 ohm 1/4W ±5%	1
R239	RD2 2 3251 JS000	Carbon 22 k ohm 1/4W ±5%	1
R240	RD1 5 3251 JS000	Carbon 15 k ohm 1/4W ±5%	1
R241	RD1 0 3251 JS000	Carbon 10 k ohm 1/4W ±5%	1
R242	RD5 6 1251 JS000	Carbon 560 ohm 1/4W ±5%	1
R243	RD6 8 2251 JS000	Carbon 6.8 k ohm 1/4W ±5%	1
R244	RD1 0 3251 JS000	Carbon 10 k ohm 1/4W ±5%	1
R245	RD8 2 3251 JS000	Carbon 82 k ohm 1/4W ±5%	1
R246	RD8 2 2251 JS000	Carbon 8.2 k ohm 1/4W ±5%	1
R247	RD2 7 0251 JS000	Carbon 27 ohm 1/4W ±5%	1
R248	RD6 8 1251 JS000	Carbon 680 ohm 1/4W ±5%	1
R249	RD5 6 0251 JS000	Carbon 56 ohm 1/4W ±5%	1
R250	RD3 9 2251 JS000	Carbon 3.9 k ohm 1/4W ±5%	1
R251	RD2 2 2251 JS000	Carbon 2.2 k ohm 1/4W ±5%	1
R252	RD1 8 4251 JS000	Carbon 180 k ohm 1/4W ±5%	1
R253	RD2 7 3251 JS000	Carbon 27 k ohm 1/4W ±5%	1
R254	RD3 3 2251 JS000	Carbon 3.3 k ohm 1/4W ±5%	1
R255	RD2 7 1251 JS000	Carbon 270 ohm 1/4W ±5%	1
R256	RD1 1 3251 JS000	Carbon 11 k ohm 1/4W ±5%	1
R257	RD1 0 5251 JS000	Carbon 1M ohm 1/4W ±5%	1
R258	RD2 2 3251 JS000	Carbon 22 k ohm 1/4W ±5%	1
R259	RD1 0 3251 JS000	Carbon 10 k ohm 1/4W ±5%	1
R260	RD3 3 3251 JS000	Carbon 33 k ohm 1/4W ±5%	1
R261	RD2 2 3251 JS000	Carbon 22 k ohm 1/4W ±5%	1
R262	RD2 2 3251 JS000	Carbon 22 k ohm 1/4W ±5%	1
R264	RD4 7 3251 JS000	Carbon 47 k ohm 1/4W ±5%	1
R265	RD2 2 3251 JS000	Carbon 22 k ohm 1/4W ±5%	1
R266	RD1 0 3251 JS000	Carbon 10 k ohm 1/4W ±5%	1
R269	RD1 0 3251 JM000	Carbon 10 k ohm 1/4W ±5%	1
R271	RD1 0 3251 JS000	Carbon 10 k ohm 1/4W ±5%	1

Ref. No.	Part No.	Description	Q'ty
	AMPLIFIER P.C.B. ASSY		
R272	RD2 2 3251 JS000	Carbon 22 k ohm 1/4W ±5%	1
R273	RD3 0 3251 JS000	Carbon 30 k ohm 1/4W ±5%	1
R274	RD1 0 3251 JS000	Carbon 10 k ohm 1/4W ±5%	1
R301	RD5 6 2251 JS000	Carbon 5.6 k ohm 1/4W ±5%	1
R302	RD1 0 3251 JS000	Carbon 10 k ohm 1/4W ±5%	1
R303	RD6 8 3251 JS000	Carbon 68 k ohm 1/4W ±5%	1
R304	RD3 3 3251 JS000	Carbon 33 k ohm 1/4W ±5%	1
R305	RD2 7 3251 JS000	Carbon 27 k ohm 1/4W ±5%	1
R306	RD3 9 3251 JS000	Carbon 39 k ohm 1/4W ±5%	1
R307	RD3 9 3251 JS000	Carbon 39 k ohm 1/4W ±5%	1
R308	※ RD8 2 A251 JS000	Carbon 8.2 ohm 1/4W ±5%	1
R309	RH3 9 1501 JZ000	Metal 390 ohm 1/2W ±5%	1
R310	RH2 7 1501 JH000	Metal 270 ohm 1/2W ±5%	1
R316	RD1 5 4251 JS000	Carbon 150 k ohm 1/4W ±5%	1
R317	RD6 8 2251 JS000	Carbon 6.8 k ohm 1/4W ±5%	1
S1	4 2319 70598	Slide Switch (Record/Play)	1
S2	4 2319 74110	Push Switch (Input Select)	1
S3	4 2319 74110	Push Switch (Tape Select)	1
S4	4 2319 74110	Push Switch (Tape Select)	1
S5	4 2319 74120	Push Switch (DOLBY NR)	1
	CONTROL CIRCUIT P.C.B. ASSY		
	4 1329 75890	Control Circuit P.C.B. Assy	1
F1	⚠ 4 2349 70040	Fuse	1
F2	⚠ 4 2349 70040	Fuse	1
	4 2359 70910	Fuse Holder	4
C314	CC1 0 3500 KE00C	Ceramic 0.01 μF 50V ±10%	1
C315	CD4 7 7250 0001V	Electrolytic 470 μF 25V	1
C316	CD1 0 8350 0001V	Electrolytic 1000 μF 35V	1
C317	CD1 0 8160 0001V	Electrolytic 1000 μF 16V	1
C330	CC2 2 3500 KE00C	Ceramic 0.022 μF 50V ±10%	1
C331	CC2 2 3500 KE00C	Ceramic 0.022 μF 50V ±10%	1
D306	4 2029 70620	Bridge Diode	1
D307	202 5 2450 13510	Diode, DS135	1
D308	4 2029 71190	Diode, 05Z20	1
R311	RD3 3 A251 JS000	Carbon 3.3 ohm 1/4W ±5%	1
R312	RD3 3 1251 JS000	Carbon 330 ohm 1/4W ±5%	1
R313	RD5 6 A251 JS000	Carbon 5.6 ohm 1/4W ±5%	1
	MECHANISM		
VR1	4 1329 76120	Left Volume P.C.B. Assy (Input Level, A-50k)	1
VR2	4 1329 76110	Right Volume P.C.B. Assy (Input Level, A-50k)	1
J1	4 1329 76340	Microphone Jack P.C.B. Assy	1
J3	4 2359 73902	Jack 1P (Headphone)	1
S6	4 2319 73110	Leaf Switch (Muting)	1
S7	4 2319 72010	Leaf Switch (Motor)	1
S8	⚠ 4 2319 73974	Power Switch	1
S9	⚠ 4 2319 72140	Slide Switch (Voltage Select)	1
CN1	4 2359 75000	Connector 6P Assy	1
CN2	4 2359 74990	Connector 3P Assy	1
	⚠ 4 2379 70560	Terminal	1
	4 2379 70650	Ring Terminal	3
HD1	4 2429 71670	R/P Head	1
HD2	※ 4 2429 71660	Erase Head	1
	⚠ 4 2439 70352	Power Cord	1
T302	⚠ 4 2519 73190	Power Transformer	1
ME1	4 5119 70630	Indicator	1
	4 5279 70836	Motor	1
PL1	4 6129 70480	Lamp	1
Q311	4 2039 70601	Transistor, 2SC1846	1
	4 2269 33320	Transistor P.C.B.	1
C332	CD2 2 7160 0001V	Electrolytic 220 μF 16V	1
	※ 141 2 3529 28000	Erase Head Post	1
	141 0 3119 14504	Chassis Assy	1
	141 0 3169 05200	Chassis Bracket Assy	1
	141 0 5219 03901	Flywheel Assy	1
	141 0 5419 02401	Pinch Roller Assy	1
	141 0 5519 05901	Friction Assy	1
	141 0 5519 06400	Eject Gear Assy	1
	141 0 7439 05400	Fast Wind Arm Assy	1

PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
	MECHANISM		
	141 0 7439 06300	Take-up Arm Assy	1
	141 2 8519 75300	Spring, Pause Lever	1
	141 2 1149 18700	Cabinet Compartment	1
	141 2 1149 20903	Chassis Panel	1
	141 2 1249 17501	Cassette Lid Frame	1
	141 2 1519 12202	Reflection	1
	141 2 1619 68600	Button Lever	6
	141 2 1619 68700	Reset Button	1
	141 2 3119 12901	Cabinet Chassis	1
	141 2 3229 29200	Volume Shield Plate	1
	141 2 3519 36901	Flywheel Support	1
	141 2 3519 37000	Cassette Holder, Left	1
	141 2 3519 37100	Cassette Holder, Right	1
	141 2 3519 49300	Chassis Bracket	1
	141 2 3529 17801	Spacer, Head	1
	141 2 3529 17900	Spacer, Brake	1
	141 2 3529 18101	Spacer, Head	1
	141 2 3529 19100	Spacer, Base	1
	141 2 3529 19401	Spacer, Gear	1
	141 2 3769 08300	R/P Head Post	1
	141 2 3899 10400	Heyco Bushing	1
	141 2 4219 04000	Screw	1
	141 2 4219 05400	Screw, Washer	3
	141 2 4219 11600	Screw	1
	141 2 4219 12100	Screw, Washer	1
	141 2 4219 13200	Screw, Washer	3
	141 2 4219 17900	Screw	2
	141 2 4219 22600	Screw, Poly Wave	2
	141 2 4459 20501	Brake Cover	2
	141 2 4459 21401	Cushion	1
	141 2 4469 00500	Flywheel Thrust	1
	141 2 4469 22000	Cushion	4
	141 2 4539 06700	Washer	1
	141 2 4539 15800	Washer	2
	141 2 4539 16200	Washer	1
	141 2 4539 18400	Washer	1
	141 2 4729 04100	Lug	1
	141 2 4729 04200	Lug	1
	141 2 4729 05300	Wire Band	1
	141 2 5319 03500	Fin Reel	2
	141 2 5319 05100	Reel Gear	2
	141 2 5369 00400	Cap, Reel Plate	2
	141 2 5519 04400	Intermediate Pulley	1
	141 2 5519 22000	Take-up Gear	1
	141 2 5519 22300	Fast Wind Gear	2
	141 2 5519 22400	Rewind Gear	1
	141 2 5519 27200	Auto Shut-off Pulley	1
	141 2 5559 04500	Eject Gear Plate	1
	141 2 5649 04300	Counter Belt	1
	141 2 5649 09900	Take-up Belt	1
	141 2 5649 11000	Drive Belt	1
	141 2 5649 11100	Auto Shut-off Belt	1
	141 2 6129 04500	Spindle, Button Lever	1
	141 2 6139 13101	Button Frame	1
	141 2 7149 03400	Brake	1
	141 2 7319 31102	Plate	1
	141 2 7319 32200	Slide Base Plate	1
	141 2 7319 33000	Cassette Lid Lock Plate	1
	141 2 7319 33100	Lock Plate	1
	141 2 7319 34000	Pause Plate	1
	141 2 7359 02000	Record Wire	1
	141 2 7419 48100	Fast Wind Lever	1
	141 2 7419 48300	Record Stop Lever	1
	141 2 7419 51100	Select Lever	1
	141 2 7419 51600	Auto Shut-off Lever	1
	141 2 7419 51700	Stop Lever	1
	141 2 7419 51900	Eject Stop Lever	1
	141 2 7419 53500	Record Link Lever	1
	141 2 7419 55900	Pause Lever	1
	141 2 7419 64700	Record Lever	1

Ref. No.	Part No.	Description	Q'ty
	MECHANISM		
	141 2 8119 07101	Counter	1
	141 2 8139 05500	Counter Bracket	1
	141 2 8219 24400	Chip, Cassette Lid Lock	1
	141 2 8419 09400	Interlock Lever	1
	141 2 8429 05400	Record Plate	1
	141 2 8519 03600	Spring, Shut-off Lever	1
	141 2 8519 19300	Spring, Brake	1
	141 2 8519 47400	Spring, Head	1
	141 2 8519 67100	Spring, Fast Wind	1
	141 2 8519 67700	Spring, Pinch Roller	1
	141 2 8519 67900	Spring, Reel	1
	141 2 8519 67901	Spring, Supply Reel	1
	141 2 8519 68100	Spring, Pause	1
	141 2 8519 70100	Spring, Button Lever	3
	141 2 8519 70200	Spring, Slide Base	1
	141 2 8519 70300	Spring, Pause Plate	2
	141 2 8519 70400	Spring, Slide Base Plate	1
	141 2 8519 70500	Spring, Record Plate	1
	141 2 8519 71700	Spring, Cassette Lid	1
	141 2 8519 71800	Spring, Interlock	1
	141 2 8519 71900	Spring, Take-up Arm	1
	141 2 8519 72000	Spring, Auto Shut-off	1
	141 2 8519 73400	Spring, Stop Lever	1
	141 2 8519 80400	Spring, Earth	1
	141 2 8519 89600	Spring, Record Lever	1
	141 2 8539 31001	Spring, Base	1
	141 2 8539 31300	Spring, Cassette	1
	141 2 8539 31400	Spring, Cassette	2
	141 2 8539 35800	Spring, Flywheel	1
	101 3 1302 60511	Screw, Pan Hd. +M2.6x5	4
※	101 3 1702 00611	Screw, Bind Hd. +M2.0x6	2
	101 3 1702 00618	Screw, Bind Hd. +M2.0x6	2
	101 3 1702 00811	Screw, Bind Hd. +M2.0x8	1
	101 3 2502 01011	Screw, Cylinder Hd. -M2.0x10	1
	103 3 1302 60511	Screw, Pan Hd. Tapping-2 +M2.6x5	3
	103 3 1302 60611	Screw, Pan Hd. Tapping-2 +M2.6x6	4
	103 3 1302 61011	Screw, Pan Hd. Tapping-2 +M2.6x10	1
	103 3 1302 61211	Screw, Pan Hd. Tapping-2 +M2.6x12	2
	103 3 1702 00611	Screw, Bind Hd. Tapping-2 +M2.0x6	2
	103 3 1702 60811	Screw, Bind Hd. Tapping-2 +M2.6x8	1
	103 3 1703 01011	Screw, Bind Hd. Tapping-2 +M3.0x10	1
	103 3 1703 01211	Screw, Bind Hd. Tapping-2 +M3.0x12	5
	103 3 1703 01218	Screw, Bind Hd. Tapping-2 +M3.0x12	2
	110 3 9260 60025	Washer M2.6x6.0x0.2	1
	110 3 9321 00102	Washer M3.2x10.0x1.0	1
	112 3 1302 00082	E Ring M2.0	1
	112 3 1302 50082	E Ring M2.5	1
	131 3 1303 00511	Screw, Pan Hd. C SW +M3.0x5	4
	135 3 1303 00611	Screw, Pan Hd. C PW +M3.0x6	1
	143 3 1302 60811	Screw, Pan Hd. Tapping-B +M2.6x8	1
	143 3 1302 60818	Screw, Pan Hd. Tapping-B +M2.6x8	4
	143 3 1303 01011	Screw, Pan Hd. Tapping-B +M3.0x10	1
	143 3 1303 01811	Screw, Pan Hd. Tapping-B +M3.0x18	1
	143 3 1903 00811	Screw, Brazier Hd. Tapping-B +M3.0x8	2
	143 3 1903 01011	Screw, Brazier Hd. Tapping-B +M3.0x10	13
	143 3 1903 01211	Screw, Brazier Hd. Tapping-B +M3.0x12	4

NOTES: 1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

ALTERED PARTS LIST (Continued)

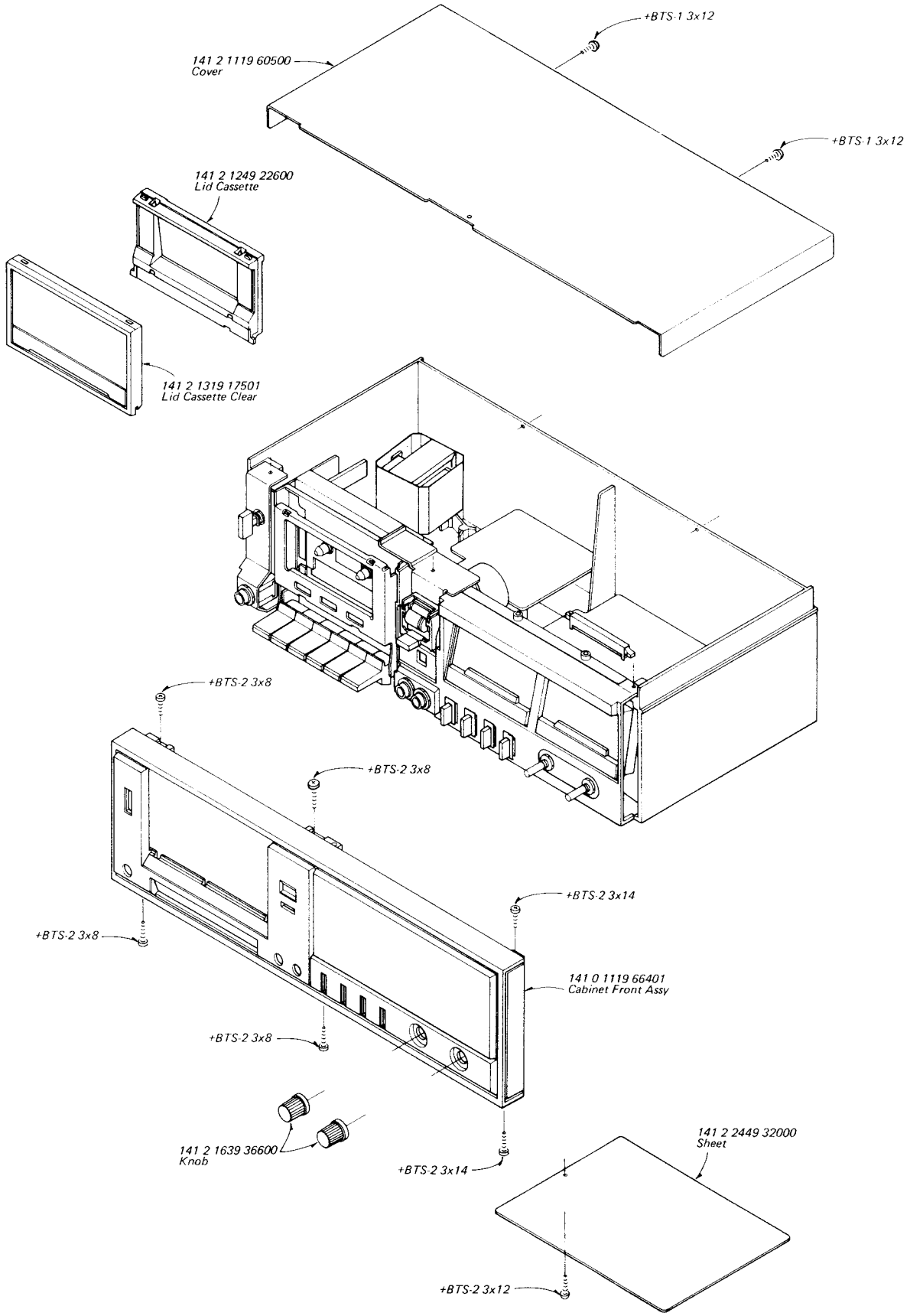
The mechanical & electrical components of the former products and the altered components are interchangable for troubleshooting purposes when they are all changed.

NOTE:
※-marked parts of the units with Serial No. 10001 – 15000 are altered as follows;

Parts No.	Description & Location	Q'ty	Altered Parts No.	Q'ty
4 2429 71660	Erase Head	1	4 2429 71710	1
141 2 3529 28000	Erase Head Post	1		
	Spring		141 2 8519 75500	1
	Tooth Outer Washer-B M2.0		110 3 3202 00082	1
101 3 1702 00611	Screw Bind Hd. +M2.0x6	2		
	Screw Bind Hd. +M2.0x8		101 3 1702 00811	2
4 1329 75564	Amplifier P.C.B. Assy	1	4 1329 75964	1
RD8 2 A251 JS000	R308	1	RD1 8 0251 JS000	1
CP1 8 3101 J000V	C307	1	CP8 2 2101 J000V	1
CM6 8 2500 K00SV	C308 and C309	2	CM5 6 2500 K00SV	2
4 2589 73140	OSC Transformer	1	4 2589 71720	1

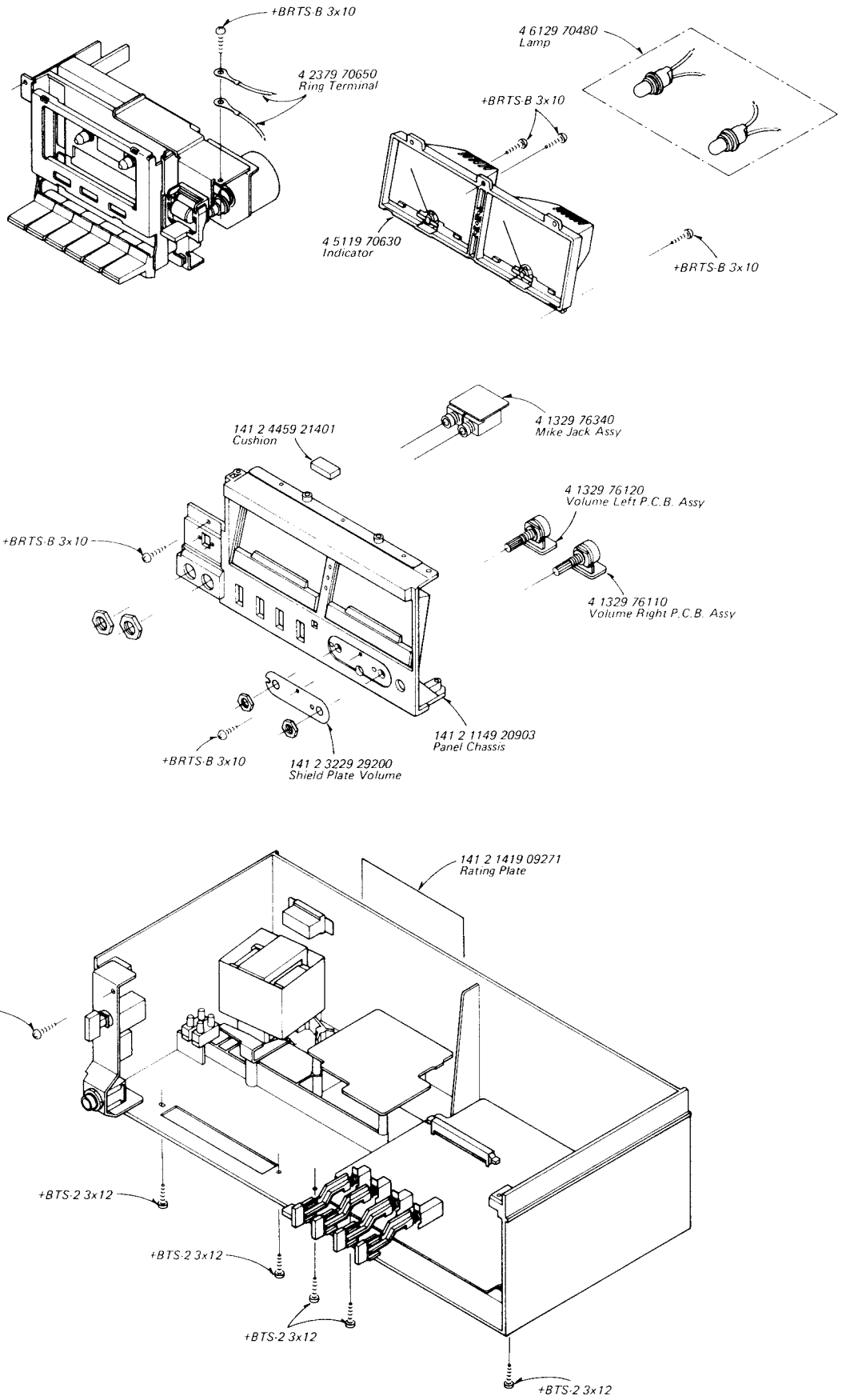
EXPLODED VIEW

(Cabinet)



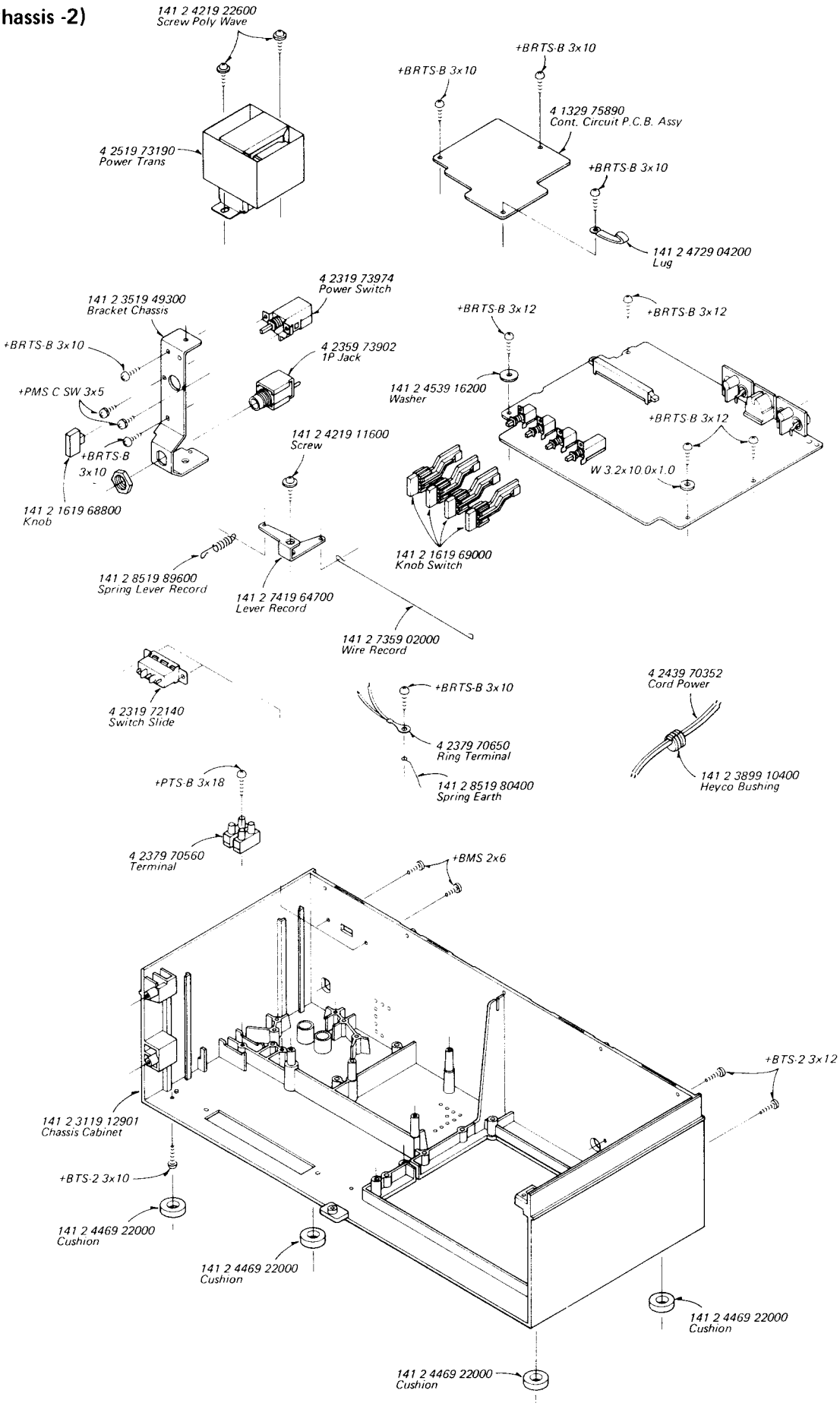
EXPLODED VIEW (Continued)

(Cabinet Chassis -1)



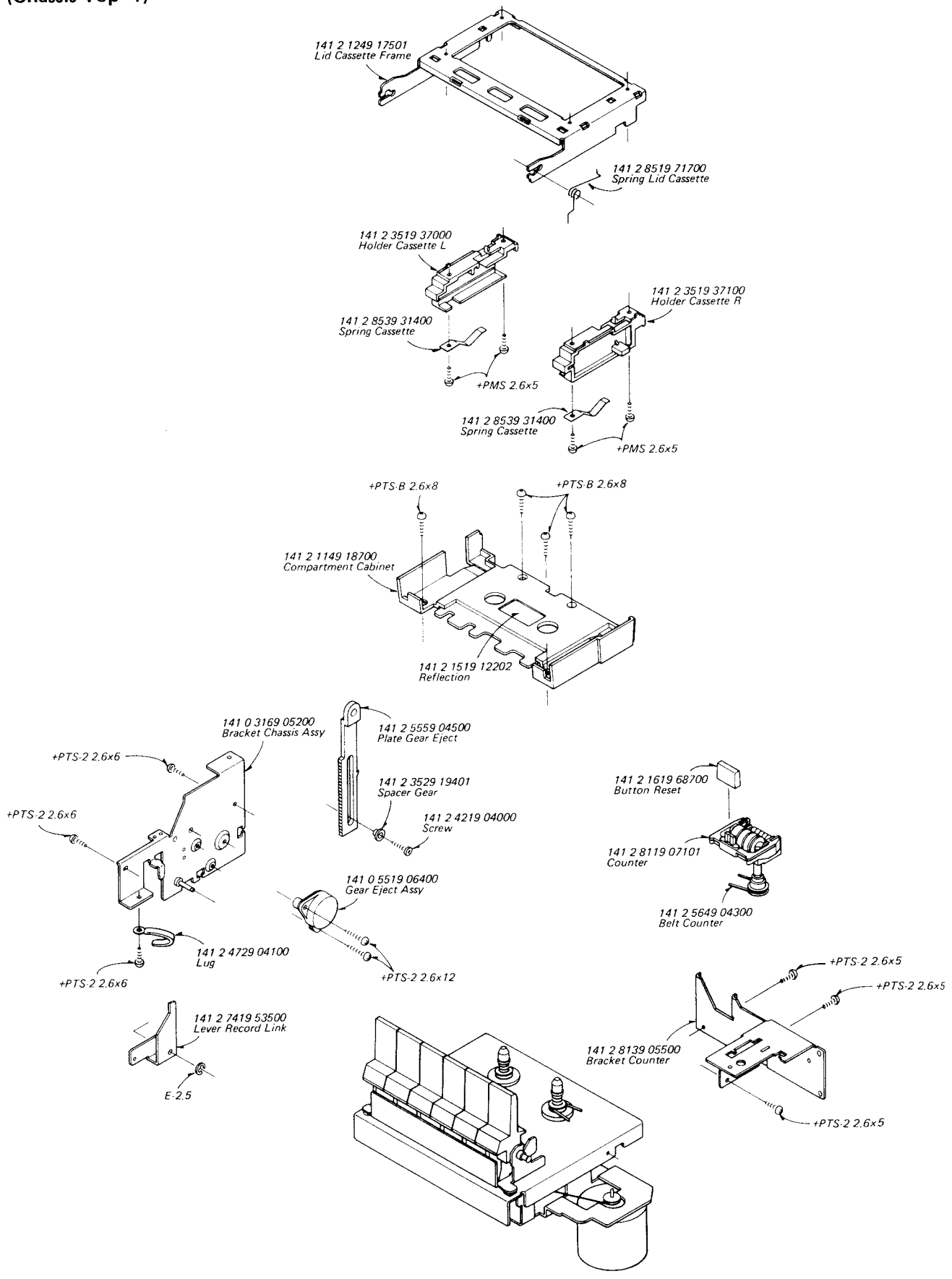
EXPLODED VIEW (Continued)

(Cabinet Chassis -2)



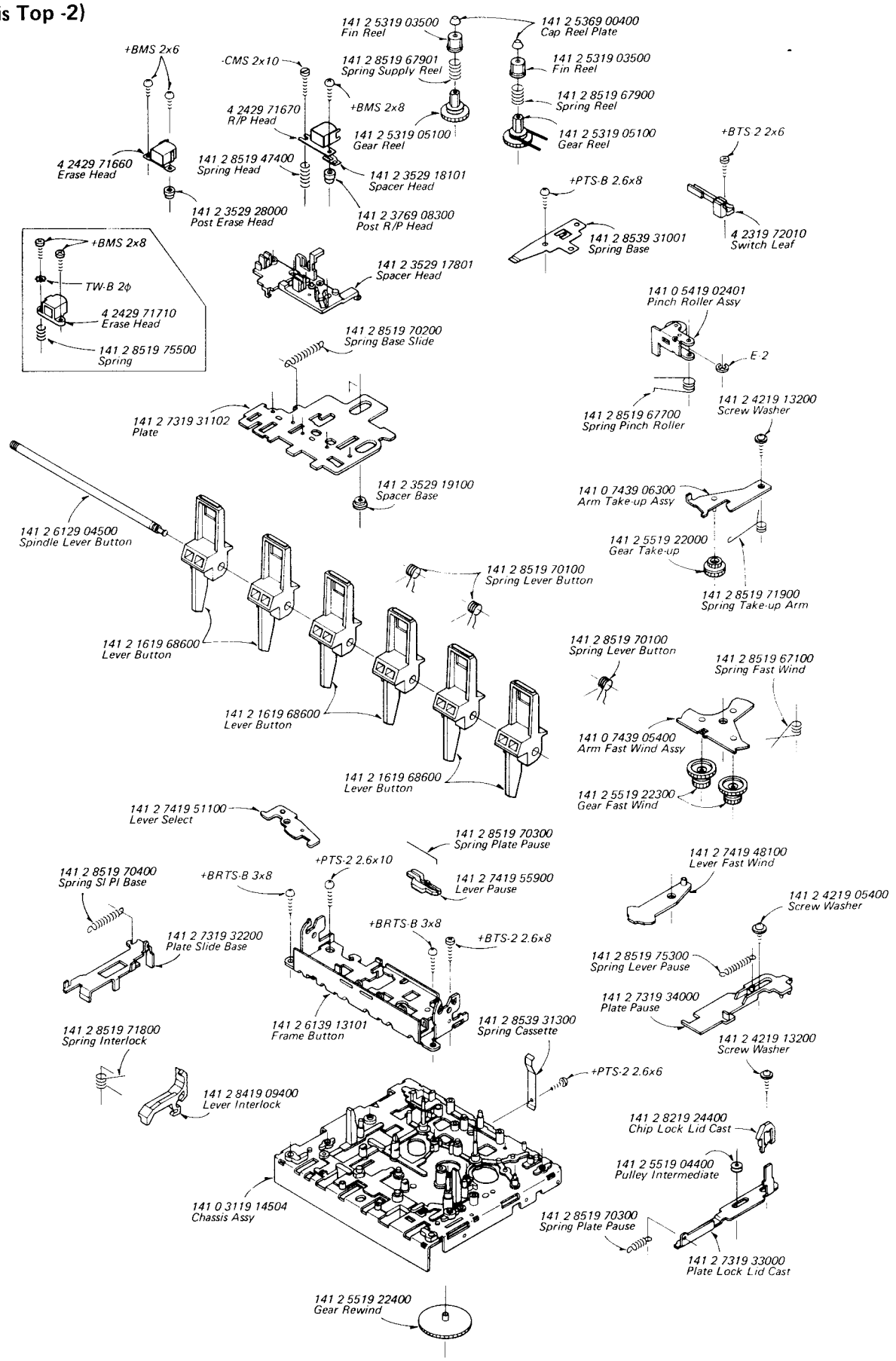
EXPLODED VIEW (Continued)

(Chassis Top -1)



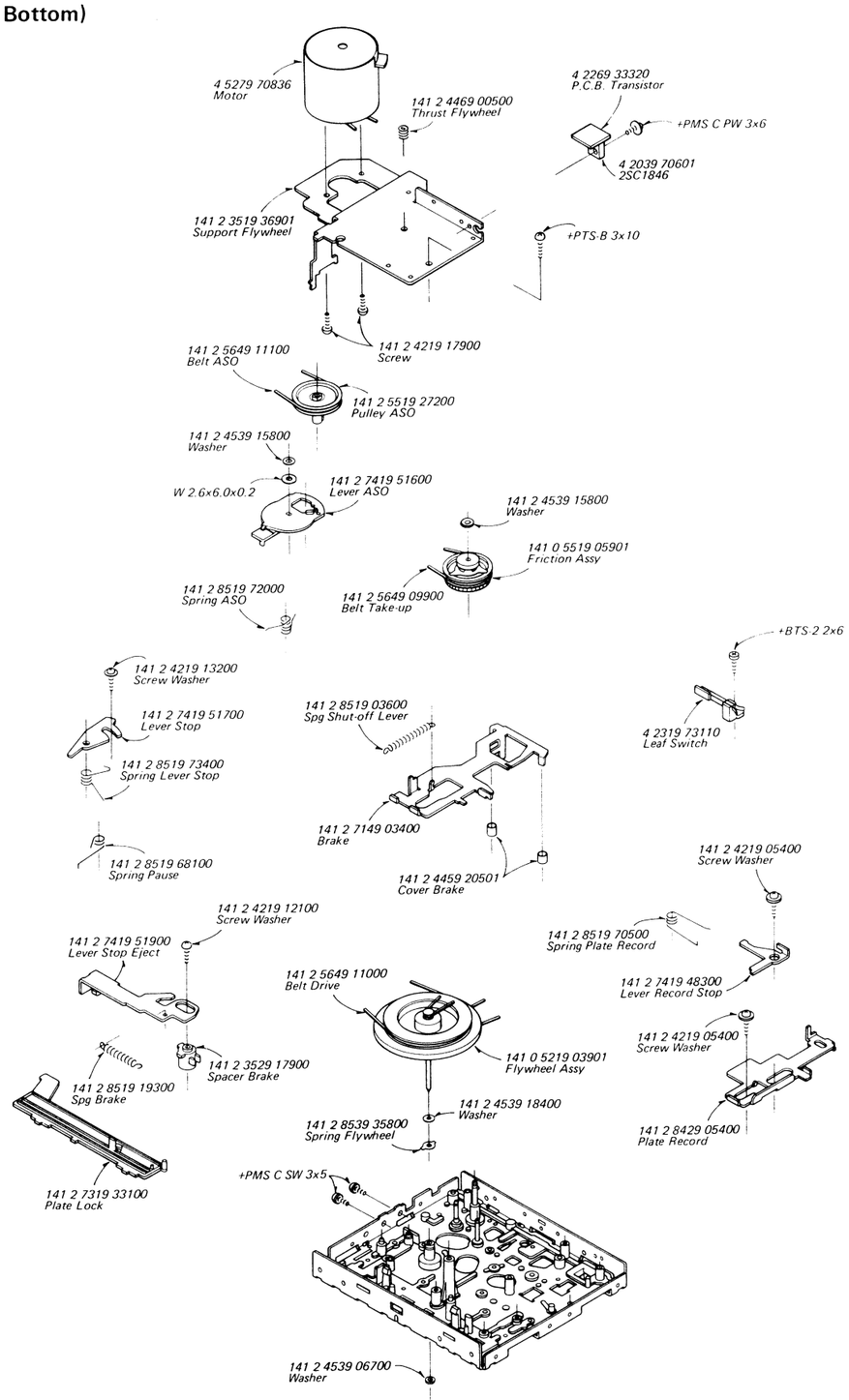
EXPLODED VIEW (Continued)

(Chassis Top -2)

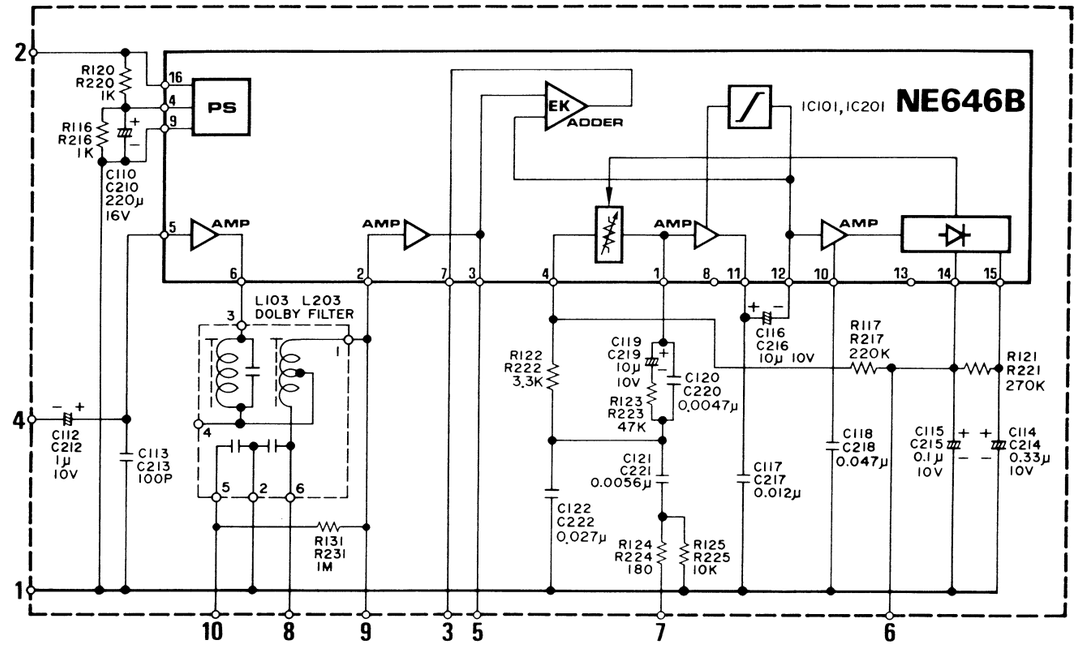


EXPLODED VIEW (Continued)

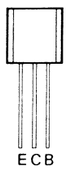
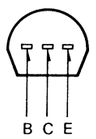
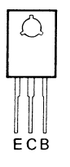
(Chassis Bottom)



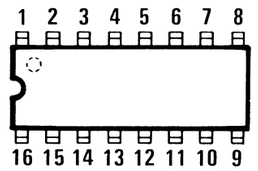
DOLBY NR UNIT SCHEMATIC DIAGRAM



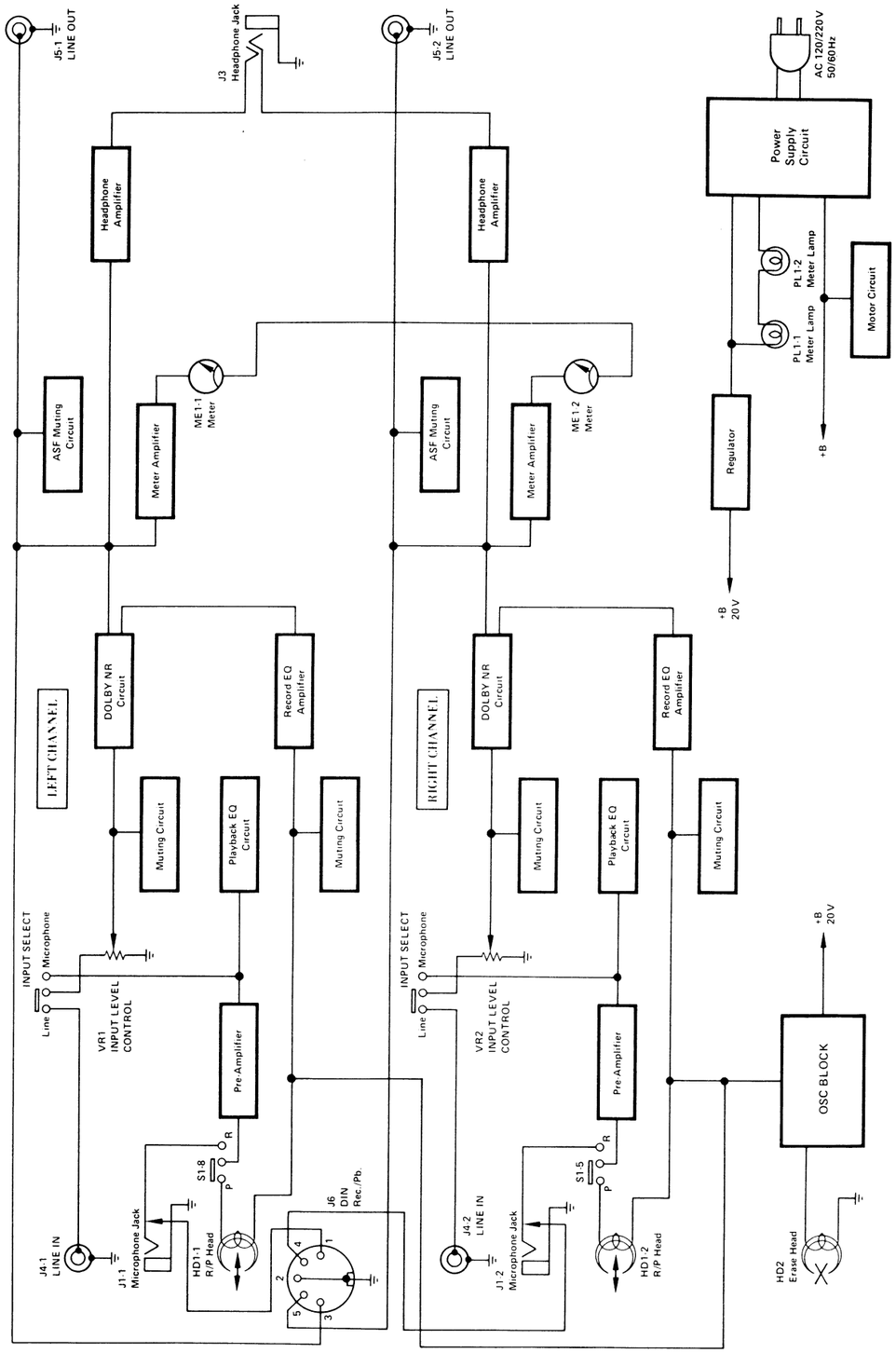
TRANSISTOR LEAD AND IC TERMINAL IDENTIFICATION

FRONT VIEW	BOTTOM VIEW	TRANSISTOR
		2SC536 2SC693 2SC1815
		2SC1846
TERMINAL NAME		
B⇒ BASE C⇒ COLLECTOR E⇒ EMITTER		

IC NE646B BOTTOM VIEW

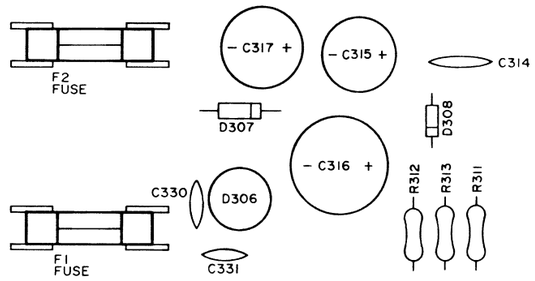


BLOCK DIAGRAM

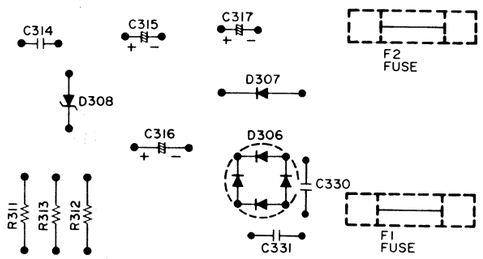


CONTROL CIRCUIT P.C.BOARD

(Top View)

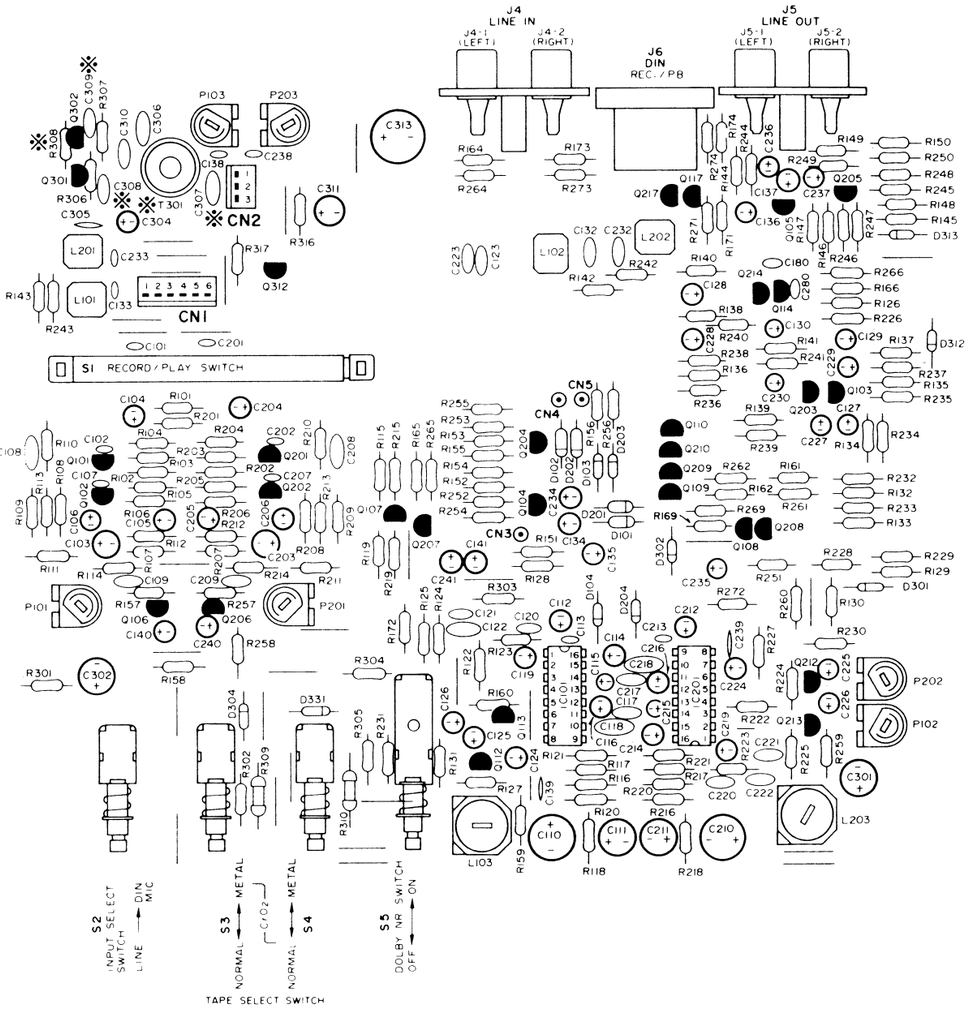


(Bottom View)

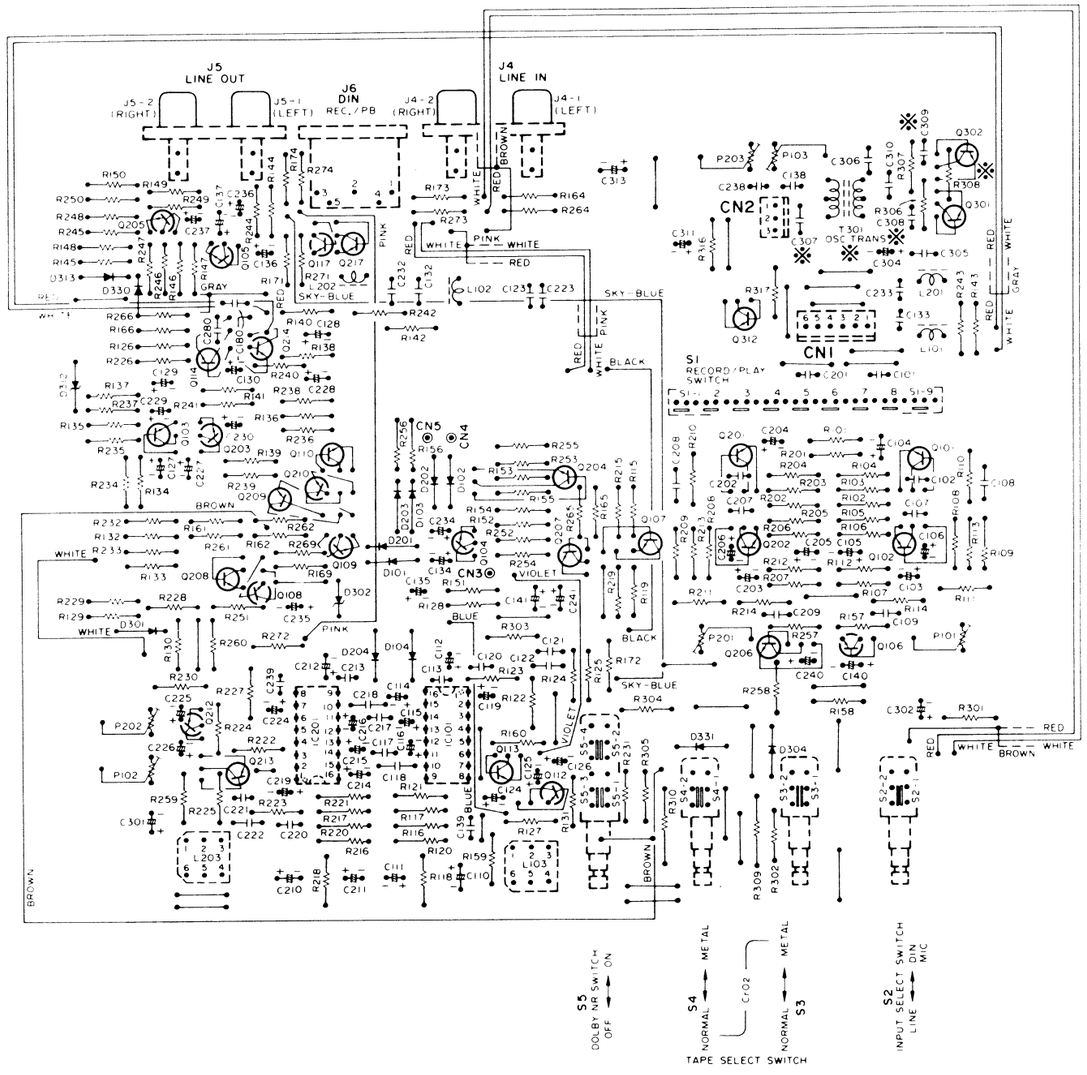


AMPLIFIER P.C.BOARD

(Top View)



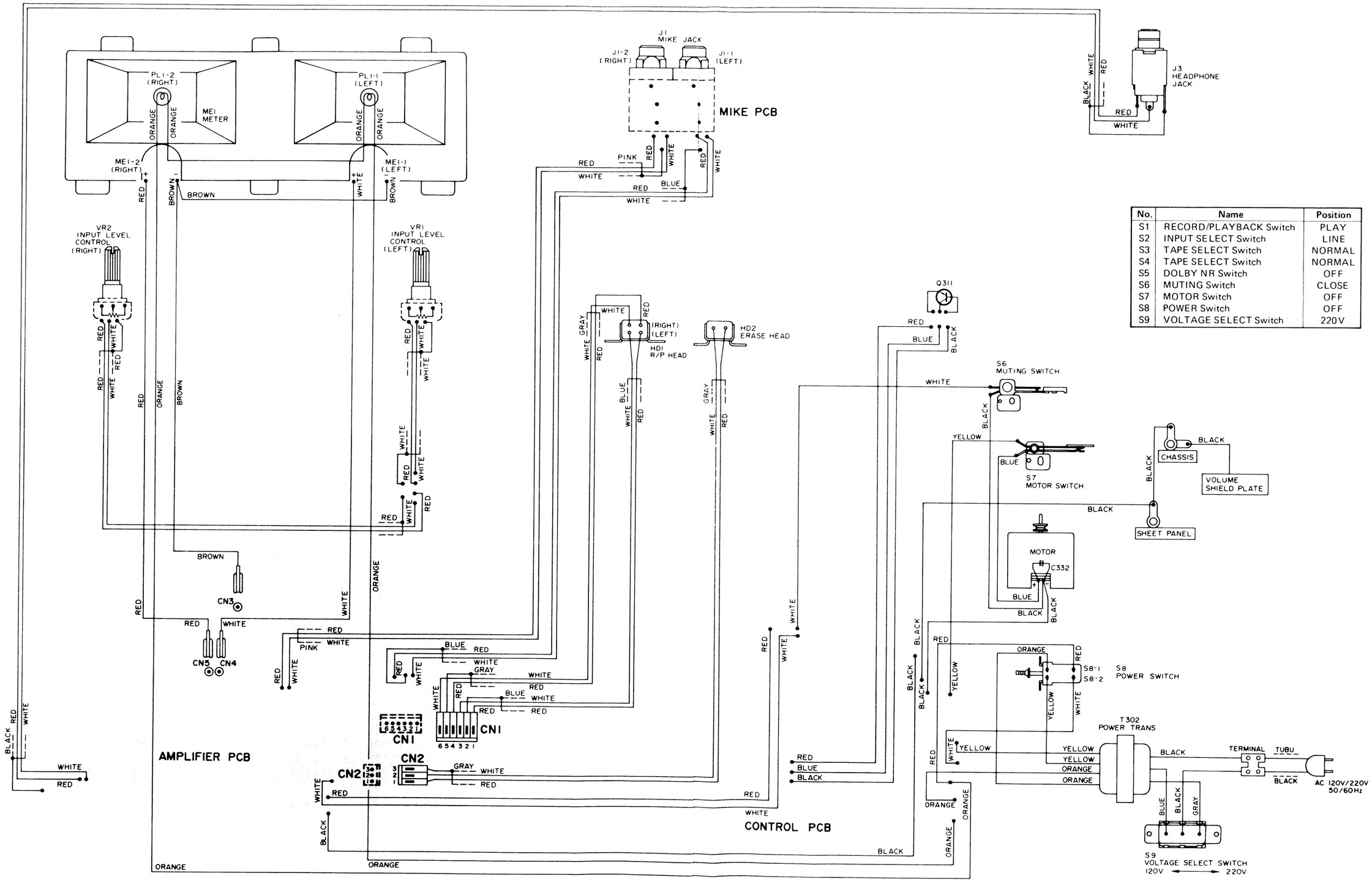
(Bottom View)



NOTE:

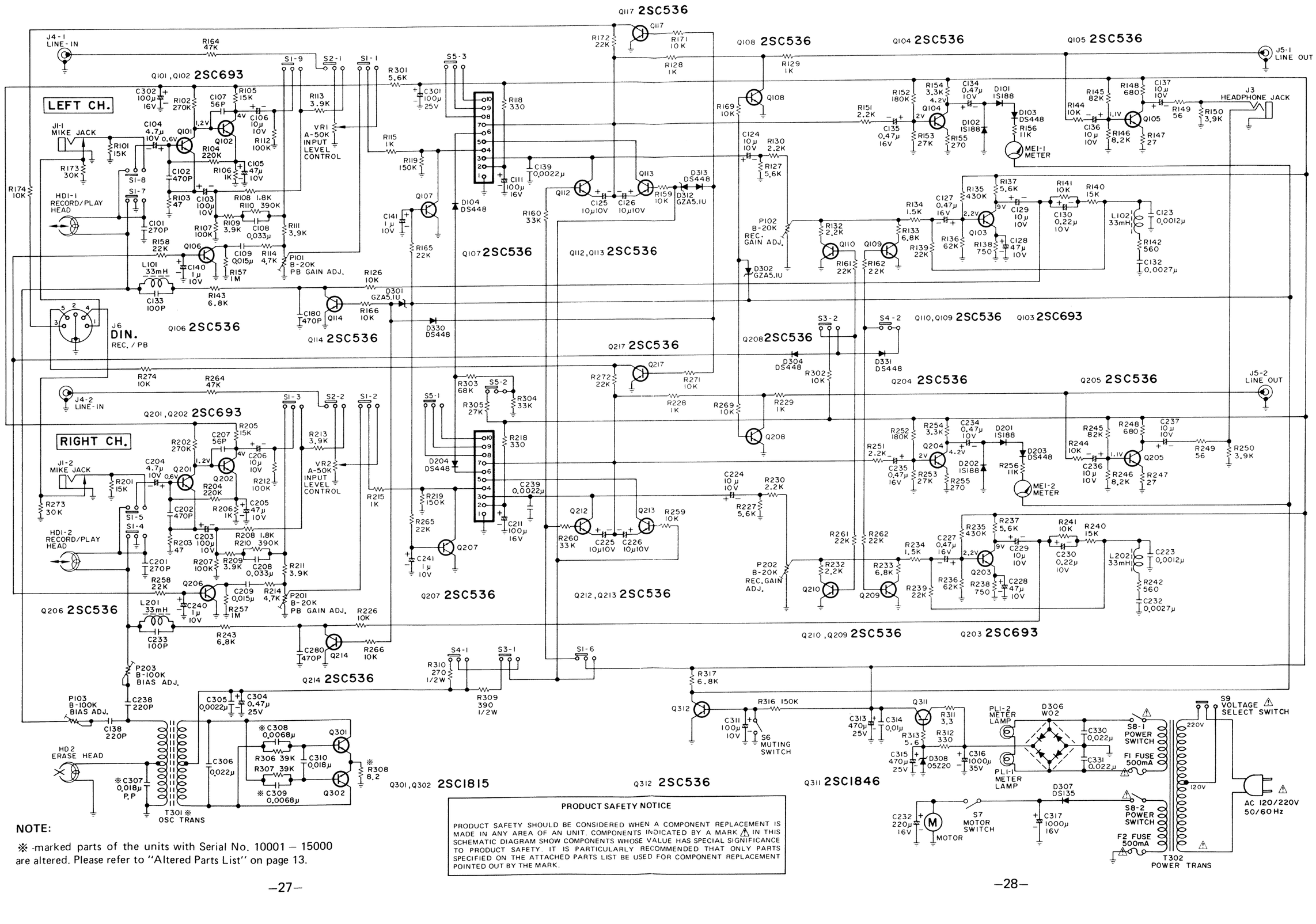
※-marked parts of the units with Serial No. 10001 – 15000 are altered. Please refer to "Altered Parts List" on page 13.

WIRING DIAGRAM



No.	Name	Position
S1	RECORD/PLAYBACK Switch	PLAY
S2	INPUT SELECT Switch	LINE
S3	TAPE SELECT Switch	NORMAL
S4	TAPE SELECT Switch	NORMAL
S5	DOLBY NR Switch	OFF
S6	MUTING Switch	CLOSE
S7	MOTOR Switch	OFF
S8	POWER Switch	OFF
S9	VOLTAGE SELECT Switch	220V

SCHEMATIC DIAGRAM



NOTE:

※ -marked parts of the units with Serial No. 10001 – 15000 are altered. Please refer to "Altered Parts List" on page 13.

PRODUCT SAFETY NOTICE

PRODUCT SAFETY SHOULD BE CONSIDERED WHEN A COMPONENT REPLACEMENT IS MADE IN ANY AREA OF AN UNIT. COMPONENTS INDICATED BY A MARK ⚠ IN THIS SCHEMATIC DIAGRAM SHOW COMPONENTS WHOSE VALUE HAS SPECIAL SIGNIFICANCE TO PRODUCT SAFETY. IT IS PARTICULARLY RECOMMENDED THAT ONLY PARTS SPECIFIED ON THE ATTACHED PARTS LIST BE USED FOR COMPONENT REPLACEMENT POINTED OUT BY THE MARK.